

Champion group of Shorthorn steers at Iowa (from left to right). Carroll Philips, J. Don L. Rinner

1 Show, 1939, shown by the following boys of Marion County, Ia., Gordon Maddy, Gene Clark, and Herbert Rees. (Court-

ELEMENTS OF LIVESTOCK JUDGING

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~~ Edited by R. W. GREGORY

J. B. Lippincott Company
CHICAGO ~ PHILADELPHIA ~ NEW YORK

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Printed in the United States of America

Preface

THE RECEPTION given the first edition of *The Elements of Livestock Judging* has encouraged the author to believe that a revised and enlarged edition of the book was desirable.

As a subject of instruction in the schools and colleges, live stock judging has lost none of its importance or appeal during the past fifteen years. There is every indication of an enhanced appreciation on the part of teachers of its practical importance, its fundamental educational values, and its quality to instill interest and excite the enthusiasm of students.

In this new and more complete edition, the chapter on methods of teaching livestock judging has been eliminated as such. It was thought that the problems of method, such as the selection of the judging material, the types of judging exercises, the question of the best sequence of classes, and the development of the ability to write and to give oral reasons could be more effectively presented if discussed and illustrated in the subject matter pertaining directly to the different classes of animals, which has been done. The material on draft horses unsoundness and determination of age, and judging mules has been divided, and the parts given separate chapter designations.

In response to the demand from teachers, there has been added a brief description of the breed type features of each of the common breeds, information which is essential when pure bred breeding classes are judged. There is a general and growing interest in recreational and pleasure riding. The addition of a chapter on the saddle horse was therefore believed

to be desirable. It is hoped that the changes and additions which have been made in the text will contribute to the interest of the subject and to the use of more effective teaching methods in its presentation.

The author wishes to acknowledge here his indebtedness to co-workers, breeders, and the authors of books and bulletins on judging and related subjects. He wants especially to record his appreciation of the ideas and inspiration received from the coaches of collegiate judging teams with whom he has been closely associated during the past years, and for the many courtesies extended by breeders. The books on judging by Craig Curtiss Nordby and Beeson, and Plumb, and on market types and classes, and breeds, by Vaughan, have been consulted freely. For the revised list of officially recognized breed record associations given in the Appendix, he is indebted to Doctor J. R. Mohler, Chief of the Bureau of Animal Industry, United States Department of Agriculture. Also for the courtesies extended by friends and institutions for the use of photographs, he wishes to express grateful acknowledgment.

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CHAPTER 1

Introduction

THE SUBJECT of livestock judging constitutes one of the important divisions of animal husbandry and is related in a most vital way to the other major divisions, feeding and breeding. It therefore deserves to occupy a large place in any program the purpose of which is to teach an appreciation of improved livestock and successful methods of production and marketing. The practical livestockman must be a good feeder, a devoted caretaker, a skillful breeder, and must know how to buy and sell to advantage; but most important of all, he must be a good judge. If he is not able to size up the individual animal accurately and quickly, he is deficient in one of the fundamentals of success.

THE IMPORTANCE OF LIVESTOCK JUDGING

The ability to judge livestock is the most essential and constantly used talent of the livestockman. Every time an animal is bought or sold, judgment must be passed on his worth as an individual. If more is asked than the merit of the individual warrants, a sale is lost; if he is priced below his value, the returns are not what they should be. In the selection of animals for feeding purposes, good judgment of their gaining capacities and future market possibilities is a matter of practical concern because here again mistakes are paid for in cash.

In the larger field of livestock breeding, success depends largely on the insight and judgment used in the selection of herd sires, in the matings decided upon, and in culling from

each generation the inferior and misfit. Mistakes in the selection of animals for breeding purposes are more than costly because unborn generations are affected, and consequently the results are not apparent until after damage has been done and the future of the herd imperiled.

Livestock judging has other values. It creates interest in animal life and the farm. It leads to a fuller appreciation of the commercial importance of farm animals and animal products and to a clearer comprehension of the part played by livestock in helping to maintain soil fertility and a more prosperous and contented farm life.

THE ESSENTIALS OF A GOOD LIVESTOCK JUDGE

Livestock judging is an art, the rudiments of which may be acquired by study and practice. Those who are ambitious to become good judges should strive constantly to train and develop in themselves those characteristics and talents which experience has shown to be necessary in a successful judge, and to acquire that information about animal types and breeds which is necessary for the support of correct ideals or standards. These essentials are here enumerated and discussed briefly.

1. A clearly defined ideal. To become a good judge of livestock the student must first acquire a clear knowledge of the ideal or standard types. The first essential to sound judgment in placing a ring of fat steers for example, is a knowledge of what constitutes excellence in a fat steer. Likewise, it is not possible to judge Shropshire sheep without having in mind a clear picture of the ideal mutton type and of those breed type features which belong alone to this breed. Such knowledge can be acquired only through study, observation, and practice.

Ideals of type cannot be fixed definitely without judging practice. Ideals are learned mainly by judging. To give opportunity to learn and fix clearly the ideal is the purpose of systematic judging exercises. Seeing a champion Jersey cow once is not sufficient to fix in the mind of the beginner the ideal Jersey, although it is the first step. Before he can picture clearly the ideal Jersey in all her parts and be able quickly to recognize even slight deviations from the ideal, he must have

his conception of type checked and corrected many times, his mental picture of the ideal refreshed many times, must have acquired an understanding of the relations between dairy type and dairy performance, and become familiar with the official breed standard.

2. **Accurate observation.** The second essential of the livestock judge is power of observation. Its importance in livestock judging is fundamental. Without accuracy of observation—the ability to see the individual as he really is—the basis for a correct decision is wanting. A very large proportion of the mistakes in judging are directly traceable to faulty or imperfect observations.

The power of observation is a natural faculty which can be trained and developed by systematic use. To train the eye and hand to observe accurately is one of the major purposes of every judging exercise. As an aid in this process the beginner should (1) learn to follow a definite system in the method he employs when inspecting or “going over” an animal or a group of animals; (2) strive always to make his observations complete as well as accurate; and (3) seek to develop the quality of dispatch or quickness in making his observations. Progress in the ability to judge is measured by one's ability to size up an individual accurately and quickly. This end is attained only after years of practice and experience.

3. **Judgment.** The livestock judge must have sound judgment. By this is meant that he should possess the ability to make comparisons, weigh evidence, and reach logical and just conclusions. An individual may have a very clear picture in his mind of the ideal for the particular class of animals which he is judging, and he may be careful and accurate in his observations of each individual of the class and miss nothing of merit or fault of any one, yet in placing the class in order of merit he may render an entirely wrong decision. The mistake in this case is due wholly to bad judgment, the result of the failure to weigh or balance accurately the advantages and faults of one animal against the advantages and faults of another.

Like the power of observation, judgment is a natural faculty which can be developed and strengthened by systematic use.

A properly organized and administered course in livestock judging provides the opportunity for testing and re testing the judgment. In scoring the student must use his judgment in deciding upon the severity of the 'cut' which should be made for a given fault or whether a point is sufficiently perfect to warrant a perfect score. In placing a ring of two or more animals the judgment is constantly employed in deciding upon the relative merits of the individuals and the final rating made. In the difficult work of show ring judging the same qualities of judgment are used. A logical and just final decision in this case is more difficult only because of the large number in the class the diversity of types which may be exhibited, the exacting demands of the breed standard, and finally, because the work must be completed in a reasonable length of time.

These three essentials, (1) a clearly defined ideal, (2) power of accurate observation, and (3) good judgment, underlie all successful judging whether done in the classroom, show ring, market place, or field. It is not possible to say one is more important than another, because each is indispensable to a correct decision. Not only that, but they are all three closely interrelated. The ability to make accurate and quick observations, for example, is in a large measure a question of knowing what to look for, or the clearness with which the ideal is visualized in the mind's eye. Judgment, also, is always conditioned by the judge's conception of the ideal, or the importance which he attaches to the requirements of the market, feeder, or breeder. When experienced judges disagree, it is usually because they do not have in mind the same type or because they place different values on a given point. The development of any one of these qualities, in other words, is limited by the development of the other two. A good course in livestock judging provides the opportunity for the simultaneous learning and fixing of ideals with a training of the faculties of observation and judgment.

4 **Courage and honesty.** Characteristics of the reliable livestock judge are courage and honesty. A judge may be competent, but if he is lacking in either of these he is unfit. The judge must have honesty of purpose and the courage of his convictions.

and make the awards always according to them, despite the reverse verdicts of previous shows, or what any exhibitor or onlooker may wish or say. Honesty will compensate for many mistakes and shortcomings. There is nothing more ruinous to the success of a show than suspicion on the part of exhibitors or public that the judge is allowing some outside influence to affect his decisions. Exhibitors must have confidence in the honesty as well as the ability of the judge. Courage is an element of honesty, and together they represent a large part of character. Only when the judges are selected because of their character as well as their ability does the livestock show perform its real function.

No student can hope ever to make progress who does not practice habits of honesty and independence of decision in the daily laboratory work. This is a large part of the training which is necessary in making good livestock judges, as well as good citizens. It is quite impossible, for example, for a student who is dilatory and careless in his habits of observation, or who allows himself to see an animal or class through another's eyes, or who hands in a rating not based on his own judgment, ever to develop into a competent judge.

5. *Ability to give reasons.* A statement of the essentials of a good livestock judge would not be complete if it failed to mention the ability and willingness to give reasons. Although this faculty is not essential to the correct placing of a ring of stock or in the actual work of selecting breeding or market animals on the farm, it is nevertheless an asset of the highest value in any judge. More and more official judging at fairs is requiring that the judge give his reasons for the placings made. This is commendable and in line with the educational purpose of livestock shows. If, after placing a ring of animals, for example, the judge arranges in order the individuals as they were placed, then explains upon what basis the class was judged, describes the ideal or what is wanted in that class, and then states clearly his reasons for placing the first above the second, the second above the third, and so on, the educational value of the show is greatly enhanced, interest on the part of spectators is stimulated, unasked questions in the minds of showmen or

spectators are answered, and possible criticism and misunderstanding avoided.

Summary. Summarizing the essential qualities of a livestock judge, we might say that he must have (1) a clearly defined conception of the highest types; (2) power of accurate and quick observation; (3) sound judgment; (4) courage and honesty; and (5) ability to give his reasons. The attainment of these ends is made possible through training the faculties in observation, judgment, and expression, and by taking advantage of the opportunities to acquire a knowledge of market and breeding types.

Although the rudiments of judging may be acquired in the classroom and laboratory, it should be understood that real proficiency is attained only after years of experience and through the virtue of constant practice. Even with these, some men never become good judges. This is the basis of the often-heard statement, "Good judges are born, not made."

CHAPTER 2

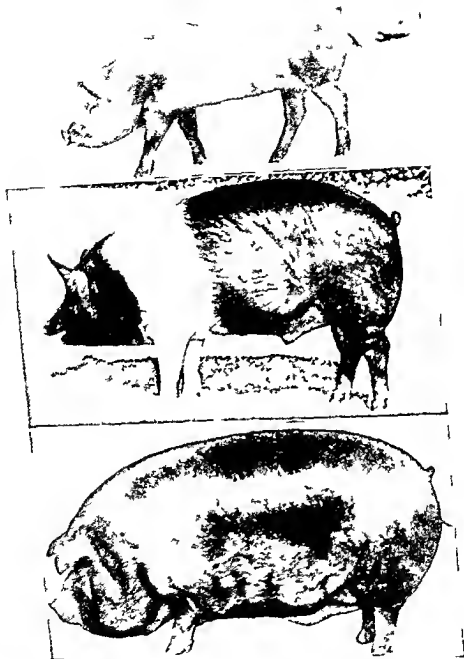
Swine

SUCCESS IN producing market pork or in breeding purebred hogs is dependent on the judgment used in the selection of the breeding stock. Good judgment, however, will not accomplish results, except as it is based on sound ideals. In forming one's ideals it is important that the beginner be guided by considerations of a practical nature, that is, with due appreciation of the importance of having sows that are prolific and pigs that are good feeders and capable of meeting the demands of the market or consumer when sold. No breed of hogs whose show-ring standards fail to square with these practical requirements can hope to remain popular for long.

MARKET TYPES

From the viewpoint of the market, there are three types of hogs: (1) the old-fashioned or extreme lard type, (2) the intermediate or meat type, and (3) the bacon type.

The extreme lard type. The old-fashioned or extreme lard type is a hog of medium-to-small size and possessing to an extreme degree the disposition to fatten easily. He is naturally thick, is compactly built, and stands usually on very short legs. The type is well illustrated in the picture at the bottom of page 8. In the days when thick, heavy cuts of salt pork were in demand, and when the exports of lard amounted to one-third of the nation's production, and before lard substitutes had taken the important position in the diet which they now occupy, this extreme lard type was the favorite market hog.



Top The bacon type—selected by the Industrial and Development Council of the Canadian Meat Packers to demonstrate the type and condition required to produce English bacon or the Wiltshire side. Center The American or meat type—a model in type finish and smoothness. Bottom The extreme lard type—too lardy for present market demands.

The meat type. The second type might well be called the American type because it is the one which produces the weight and quality of cuts and the proportion of lard within the limits which meets most acceptably the present and varied domestic demands of our home markets. It is a type also which, from the producer's point of view, is consistent with prolific breeding qualities and the ability to feed satisfactorily. The type is intermediate between the extreme lard hog, on the one hand, and the bacon hog on the other. It is medium as to thickness, condition, and length of leg; of good length and depth of body; with emphasis on ham development, straight side lines, compact shoulders, neat jowls, trim middles, and symmetry. The ideal also is characterized by quality, smoothness, and firmness. See the pictures on the opposite page.

The bacon type. The distinguishing characteristics of the bacon type are long, deep, smooth sides; smooth shoulders; a moderate but even width of body; deep muscular hams; and a moderate condition of fatness. It is the type that has been evolved in England, Scotland, Ireland, Denmark, and Canada, especially to meet the demand for high-grade English bacon, the world standard for which is set on the Smithfield market, London, chiefly in the form of the Wiltshire side. The requirements as to weight, type, and finish for the production of high-class bacon are much more sharply limited than are the specifications for the meat or intermediate type of hog.

SCORING THE MARKET BARROW

In teaching the judging of hogs it is logical to begin with the finished fat barrow, not only because the type of the finished product is important in determining the type of boars and sows that should be selected to produce it, but also for the reason that the subject is more simple. First, a study will be made with the score card as a guide, followed later by comparison with written reasons, and then by placing with oral reasons.

PROCEDURE IN MAKING OBSERVATIONS

One of the handicaps with which the hog judge always has to contend is the difficulty of seeing all the individuals of the

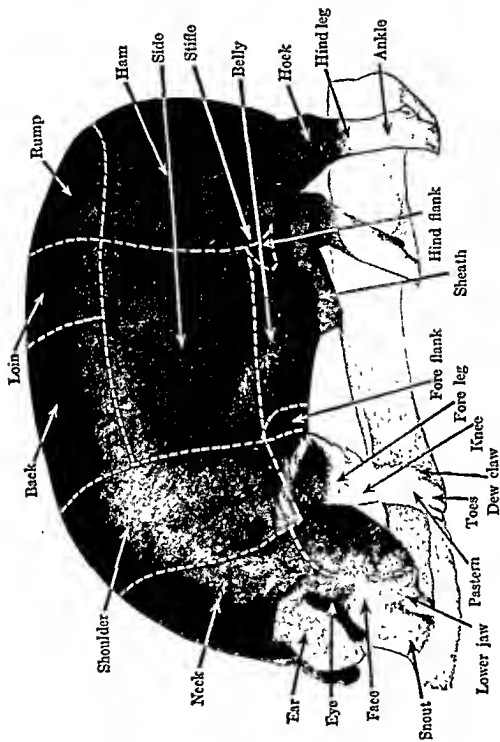
class under the same favorable conditions To get a complete picture of the individual it is necessary that he be observed from three positions from the side, from the rear, and from above The side and rear views are best from a distance of about ten feet, to obtain a view from above, the judge of course must stand close and to the rear of the pig

From the side, the judge takes in the general type, balance, and lines of the pig He notes especially the evenness and strength of the topline from the ears to the tail, the depth, length and smoothness of the side the bulge to the ham, the smoothness at the base of the shoulders and the neatness and firmness of the jowl and underline The faults most commonly observed from this position are a lack of compactness and balance, weakness just behind the shoulders, steep rumps, coarse shoulders, light, flat hams soft, flabby jowl and underline creases along the side of the shoulder and side, and weak pasterns and crooked hind legs

The rear position is especially good for judging the depth and thickness of the hams, straightness of side lines, smoothness along the shoulder sides, and the arch to the ribs The defects that stand out most plainly from this angle are light hams, prominent, rough shoulders tucked in behind the shoulders, pinched loin knock knees and standing too close at the hocks

Close inspection from above and a little to the rear is depended on especially in judging the condition or finish of the pig as indicated chiefly by the width of the back and loin, and in observing more closely the compactness and smoothness of the shoulders and the strength and fullness of the loin and flanks The common faults which should be looked for here are lack of width or condition heavy coarse shoulders, narrow weak loin and a tendency to taper in width from front to rear

In show ring judging especially when the ring is crowded these observations necessarily are brief and sometimes incomplete It is customary in such cases to provide a second pen to receive the short leat or most likely candidates, where second and more careful study of the individuals with comparisons may be made In contests it is the practice to place the class in a circular pen about twenty feet in diameter, the



The score-card points of the fat hog

contestants being required to stand on the outside. There should be one attendant whose business it is to prevent the pigs lying down or standing in a huddle, by driving them slowly one behind the other around the circle close to the hurdles. The opportunity for each contestant to view each pig several times from the side, top, and rear, and to make comparisons, is thus provided. In scoring practice also the circular pen with an attendant to drive the pig is the most satisfactory, especially when the number of students is large.

Score Card for the Fat Barrow

SCALE OF POINTS		STANDARD OR PERFECT SCORE
GENERAL APPEARANCE—30 PER CENT		
1 Weight (Score according to age)		4
2 Form (Deep, broad, medium in length, evenly arched top-line, trim, straight underline, compact, symmetrical standing squarely on straight legs of medium length)		10
3 Condition (Well finished, deep, even, firm yet mellow covering, free from rolls and flabbiness)		10
4 Quality (Hair smooth and fine, bone of medium size, clean, and hard, smooth, refined general appearance, free from creases and wrinkles)		6
HEAD AND NECK—8 PER CENT		
5 Snout (Medium length, not coarse)		1
6 Eyes (Prominent, clear, not obscured by wrinkles)		1
7 Face (Clean-cut, cheeks full)		1
8 Ears (Medium size, attached neatly)		1
9 Jowl (Neat, firm, free from wrinkles)		2
10 Neck (Short, full, smooth to shoulders)		2
FOREQUARTERS—14 PER CENT		
11 Shoulders (Deep, smooth, compact on top)		10
12 Breast (Full, smooth, neat)		2
13 Legs (Straight, medium length, strong bone clean, hard, pasterns strong, straight, feet medium size, toes together)		2
BODY—33 PER CENT		
14 Chest (Full back of shoulders, wide, deep)		4
15 Sides (Deep, medium length, straight, smooth)		8
16 Back (Broad, uniform in width, strongly arched, thickly and evenly covered)		9
17 Loin (Thick, strong, same width as back)		7
18 Belly (Straight, smooth, firm)		5
HINDQUARTERS—15 PER CENT		
19 Rump (Long, not steep, wide, evenly fleshed)		4
20 Ham (Full, deep, wide, firm)		9
21 Legs (Straight, medium length, strong bone clean, hard, pasterns strong, straight, feet medium size, toes together)		2
Total		100

DISCUSSION OF THE SCORE CARD POINTS

Weight The age of the pig must be considered when scoring the weight. Although the market usually prefers a weight of 200 to 225 pounds, from the producer's or show ring standpoint, the heavier a pig is for his age the better. If he has made a gain from birth of approximately $1\frac{1}{4}$ pounds daily, he should be given a perfect score.

Form The ideal form is described briefly in the score card. This type of finished fat barrow is preferred by the packer because it will dress out a large proportion of edible meat to offal and will furnish a high proportion of those cuts in greatest demand, namely, hams, loins, and bacon. Also, there will be a minimum of trimming in preparing the various cuts for curing and sale.

The common faults in the form of the finished fat barrow are lack of symmetry and uniformity of width, heavy shoulders, wasty middle, and light hams. To the butcher these faults in external appearance mean low dressing percentage, a carcass which is heavy in front and light in the loin and hams, and excessive trimming in the preparation of the cuts for sale.

Condition The fat barrow should be finished in condition firm and smooth in his flesh. He should not carry as much fat as the old-fashioned lard type, nor should he be lacking the amount necessary to insure a firm carcass and the amount of lard needed to meet present market requirements. As a rule the market will pay the highest price for the well-finished hog, providing he is firm and smooth and not too heavy in weight. Besides being desirable in itself as lard, high condition guarantees a high dressing percentage and improves the keeping and shipping qualities of the meat when cured.

The degree of fitness is indicated by the general plumpness in form, the amount of fat in the regions of the jaw, lower line, and hams, and the width of the back and loin. In determining the depth of fat covering on top of the shoulders, back, and loin, the judge may use his hand to advantage.

Quality The fat hog should show quality in every line and feature. His hair should be fine and straight and lie close

to the body. The bone should be medium in size, clean, and hard in appearance. The head should be light, the features clean-cut, and the ears light. The skin should be soft and healthy, and there should be no tendency to roughness, creases, or wrinkles along the shoulders and sides.

Quality is important in the fat barrow because quality on foot indicates fine texture of the meat on the block. It is important also because the carcass can be more easily dressed, and there is a smaller proportion of the cheaper cuts, a higher dressing percentage, and less trimming in preparing the various cuts for cure.

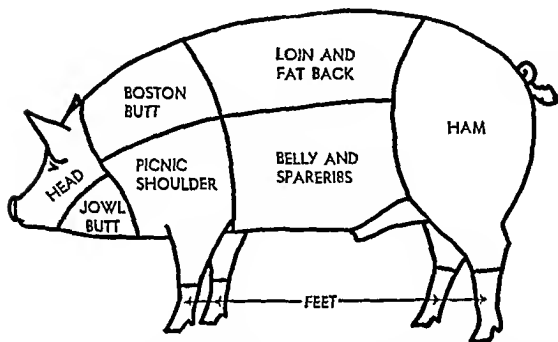
Head and neck. The butcher is interested in the head and neck chiefly because it is largely cheap meat or so much waste. The less the weight and the more refined these parts, therefore, the better. A broad head and short neck are usually associated with a broad back and loin and thick, heavy hams. Quality and refinement in these features are desirable because they indicate fine grain in the meat and light offal or waste in dressing.

Forequarters. The shoulders represent the largest part of the forequarters. This is indicated on the score card by the large credit of eight points given. It is particularly important that the shoulders be smooth and compact on top, join smoothly with the neck and sides, and be free from any tendency to roughness or creases along the sides. They should also be deep and the hreast full and the legs wide apart.

Body. All parts of the body are important to the butcher because together they represent the largest part of the salable carcass. A broad, thick, strongly arched back and loin, deep, smooth sides, and a trim, straight underline are the features most desired. The most common and serious faults are a heavy paunch and wasty underline, fish back, weak loin, and creases along the sides.

Hindquarters. The hams represent the principal part of the hindquarters. The rump is part of the ham cut. The width of the rump and the thickness of the hams should be the same as the width of the back and loin. The hams should be not soft and baggy, but long, full, deep, and muscular. They

should also be broad and wide and well covered in the region of the stifles. The ham is the most important and popular cut in the hog carcass. When plump and full of muscle, and



Location of the standard wholesale pork cuts. Market hogs dress from 75 to 85 per cent when the head and leaf lard are included in the carcass, and about 6 per cent less when these are not included. The chief factors determining what a hog will dress are condition, form, and quality.

properly cured and smoked, it is to pork what the porterhouse is to beef.

COMPARATIVE JUDGING OF FAT BARROWS

SIMPLE COMPARISON

Following a few exercises of score-card practice, the beginner should be introduced to comparative judging of two or more individuals. For the first classes, individuals should be selected which present considerable contrast or, in other words, are easy to place. Later, classes should be used in which the differences in merit are less obvious, yet which are placeable.

A card made up according to the plan used in many junior contests is desirable in this type of judging and is shown below. The advantages of this plan in the conduct of such contests are discussed briefly on page 214

Judging Contest Card for the Fat Barrow

Class No -----

Class Name ----- Contestant's No -----

GENERAL POINTS	PLACING				GRADE
	1st	2nd	3rd	4th	
General appearance—15 per cent (Weight, symmetry, lines)					
Forequarters—10 per cent (Head, neck, shoulders, forelegs)					
Middle—15 per cent (Back, loin, side, belly)					
Hindquarters—15 per cent (Rump, hams, legs)					
Condition—30 per cent (Fatness, firmness)					
Quality and smoothness—15 per cent (Hair coat, head, bone, wrinkles)					
Final placing					
Judge's grade					

PLACING WITH WRITTEN REASONS

In the actual work of placing a class it is important that the judge not allow himself to be confused by giving undue attention to details. Also, in giving reasons, it is desirable to consider only the more important and significant differences between the individuals of the different pairs. It is necessary to do this because the time allowed either for placing or reasons is too limited, and also for the more important reason that the placing is more likely to be correct and the reasons more clear and to the point if details are dispensed with.



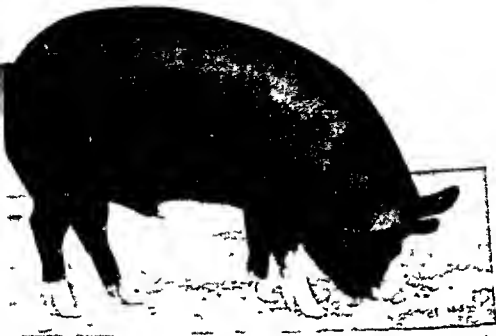
Grand champion barrow over all breeds, American Royal, and grand champion junior division, International, 1939—a model of balance, finish, and quality—shown by Aaron Gritmaker, Lahoma, Oklahoma.

The following condensed outline and order of points for the fat barrow will be found helpful in making the observations and organizing the reasons for their presentation, either in written or oral form:

1. Form50 per cent
2. Condition 35 per cent
3. Smoothness and quality15 per cent

SOME USEFUL DESCRIPTIVE TERMS

Not only should the student observe a system in going over the class and follow some practical plan or outline in organizing his reasons, but he must also have at his command the stockman's terms if his reasons are to be stated accurately and clearly. The importance of having ready use of the right word, especially in contest judging, is such as to warrant considerable practice and drill on this feature of the preparation. Much can be accomplished along this line by having written and oral discussions of selected pictures, as well as with live animals.



Grand champion barrow over all breeds International 1936 shown by the Pennsylvania State College

Form

Ideal Broad deep long compact symmetrical balanced, dressy strong back, evenly arched topline neat jowl straight underline, compact smoothly laid shoulders, straight side lines even width deep thick, heavy hams, straight legs strong pasterns

Common faults Narrow, shallow bodied, leggy, short sided, too squatty, lacks compactness, lacks balance, weak in the back, low behind the shoulders, steep rump heavy jowl wasty in the middle, sagging under line, heavy sheath heavy coarse shoulders, open on top of the shoulders tapers from front to rear, tucked behind the shoulders, pinched in the loin, light in the hams knock kneed, crooked set to the hind legs, weak pasterns

Condition

Ideal Fat, finished in condition smooth, firm

Common faults Thin lacks condition or finish, soft, flabby jowl and underline, roly, too fat or overdone in condition



Grand champion junior division and grand champion over all breeds, International, 1937, shown by Arnold Moore, Union City, Oklahoma.

Smoothness and quality:

Ideal. Smooth; free from creases or wrinkles on top the neck, shoulder sides, sides and flanks; neat jowl, trim, smooth underline; clean, hard bone; clean cut features about the head and ear; fine, smooth hair coat.

Common faults. Rough, coarse; wrinkled on top the neck, rough or creased along shoulder sides, creased along the sides or flanks; coarse, heavy, soft jowl; rough underline; heavy, coarse ears, coarse head; coarse, heavy bone; coarse, rough, curly hair coat; has a swirl.

SAMPLE CARD WITH WRITTEN REASONS

The example on page 20 illustrates the essential features in this type of judging exercise. Because of the limited space on the card usually used, the reasons necessarily must be brief and only the important differences between the individuals of the respective pairs mentioned. In this contest ring of fat barrows, the placing was correct and in the opinion of the judges the reasons merited a grade of 46 of the possible 50.

LIVESTOCK JUDGING CONTEST

Contestant's number 32 Date June 20, 1939

Class Fat Barrows

Placing 1st. 3 2nd. 2 3rd 1 4th. 4

Number 3 was placed first over Number 2 second

Number 3 was more compact, broader and deeper bodied, heavier in his hams, and fatter than 2. Number 2, however, had a neater jowl and underline, and showed more quality in bone and hair coat than 3.

Number 2 was placed second over Number 1 third.

This was a close pair. I will concede that 1 was a little thicker in his hams, broader of back, and fatter than 2, but 2 was more compact in his shoulders, stronger of back, trimmer in the middle, and had more quality than 1.

Number 1 was placed third over Number 4 fourth

Number 1 was an easy winner over 4, although 4 was smoother than 1. Number 1 was deeper and wider bodied, heavier of hams, and fatter than 4. I faulted 4 chiefly for lack of condition and weak hams.

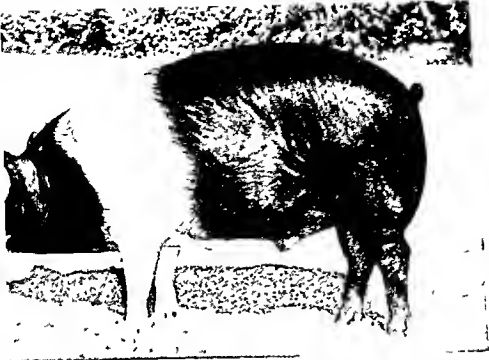


Grand champion 4 H Club barrow and grand champion over all breeds Indiana State Fair, 1940, shown by Raymond Smith, Rensselaer, Indiana

PLACING WITH ORAL REASONS

The importance of concentration Much of the difficulty in contest, as well as in show ring, judging results from the fact that the work must be done within definitely prescribed limits of time. It is therefore of the utmost importance that the student not only have clearly in mind the ideal for the class being judged and that he follow a system in making his observations and giving his reasons, but also that he practice great concentration during the time allowed for observing the class. He should not allow his attention to be diverted for an instant. In judging hogs especially, where the opportunity of seeing the individuals under conditions favorable for accurate comparisons is infrequent and limited, he must be on the alert constantly in order to take advantage of the favorable presentations when they do occur.

The desirability of having a well organized, fairly complete set of notes on the class, as a help in the preparation of the oral reasons later, also makes it imperative that no time be wasted. It is essential that the important differences between the individuals of the different pairs be noted, as well as de



Here is represented a near perfect model of a fat barrow—a Hampshire breeder's and artist's conception of the ideal

scriptive items made about the individuals which will aid in clearly visualizing the class later. If the student can manage to have a few minutes of time free at the end of the period, he can use it to advantage in going over his reasons and in deciding which points of difference should be stressed in the respective pairs.

Plan of procedure in giving oral reasons. The time allowed for oral reasons in intercollegiate and national junior contests is usually two minutes. Because of this limitation it is particularly important that the student follow some system or plan in the organization of his observations and conclusions and in the method of delivery employed when he comes before the judges. The author is partial to the plan explained below, which is the same in principle as the one used in the written reasons given in the example on page 20.

1. State the placing of the class.
2. Reasons for placing the first over the second.
 - (a) State why the first was placed over the second, systematically and according to the order of the general

points as illustrated on the card shown on page 20

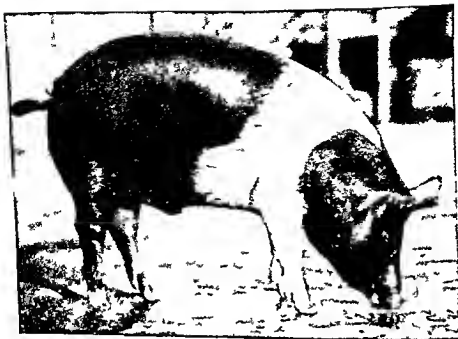
- (b) State briefly any important advantages which the second place individual may have over the one placed first
- 3 Reasons for placing the second over the third
 - (a) First, give the admissions in favor of the third individual over the second, provided the differences are of considerable importance. It is better to underemphasize these than to overemphasize them by going into detail
 - (b) Give the important advantages of the second over the third place individual. This should constitute the main part of the reasons for the second pair
- 4 Reasons for placing the third over the fourth
 - (a) First, make any admissions in favor of the fourth over the third place individual, if the differences are large, otherwise, omit any references to them
 - (b) Next, tell the important places where the third excels the fourth and last
 - (c) Finally, it is a good idea usually to point out the outstanding faults of the fourth or bottom individual as contrasted with the one placed third

To illustrate a good set of reasons for a class of fat barrows, there is submitted below the presentation as it was made orally for placing the Hampshire barrows pictured on pages 24 and 25. The barrows were placed officially in the same order in which they are shown, 1—2—3—4

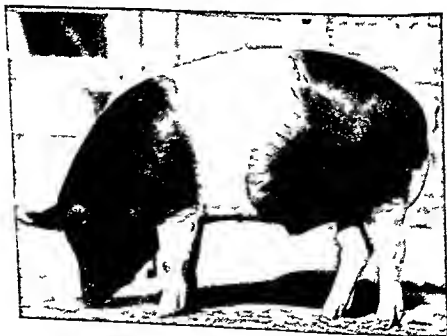
"My placing on this class of Hampshire fat barrows was 1—2—3—4

"I placed Number 1 over Number 2 because he was longer and deeper in his side, was deeper in his hams and flanks, was smoother along the shoulder sides, and showed more quality in his bone and hair coat than 2. I will concede in favor of 2, however, that he was a little broader across the rump and thicker in his hams than 1. I considered this a fairly close pair.

"In the second pair, I considered 2 an easy winner over



Barrow Number 1



Barrow Number 2



Barrow Number 3



Barrow Number 4

ELEMENTS OF LIVESTOCK JUDGING

3, although I will admit in favor of 3 that he was smoother in his shoulders and finer in his features about the head and bone than 2. Yet I placed 2 over 3 because he was broader all along his top, much heavier in his hams, deeper in his sides and more nearly finished in condition than 3.

'I considered the last pair, 3 and 4, fairly close, and will grant in favor of 4 that he was a bit deeper in his body and less leggy in his type than 3. I preferred 3 over 4, however, because he was more compact, wider throughout, had a nicer turn to his rump, was heavier in his hams and fatter than 4. Also he was smoother along the sides and showed more quality in his bone and hair coat than 4. I criticized 4 chiefly for his lack of condition, wrinkled sides, and coarse hair coat.'

SHOW CLASSIFICATION FOR FAT BARROWS

The fat or market barrow show now occupies an important place in practically every large hog show in the country. At most state fairs the barrow show has become the center of much interest, it always has been an important division of the so-called fat stock shows, such as the International and American Royal. As an addition to the regular breeding classes at the state fairs, it serves the important purpose of demonstrating to the breeder and farmer the type of hog most popular on the market.

The classifications provided at the state fairs are patterned in general after those of the larger national fat stock shows. In most instances, however, only two instead of three weight classes are made. The one outlined below is offered at the International Livestock Exposition Chicago.

- 1 Barrow, 170 and under 200 pounds
- 2 Barrow, 200 and under 230 pounds
- 3 Barrow, 230 and under 260 pounds
- 4 Pen of 3 barrows, 170 and under 200 pounds
- 5 Pen of 3 barrows, 200 and under 230 pounds
- 6 Pen of 3 barrows 230 and under 260 pounds
7. Five barrows (any weight stipulated above), get of one

sire

8. Champion barrow
9. Reserve champion barrow
10. Champion pen of barrows
11. Reserve champion pen of barrows

(The above classification is maintained for each of the eight prominent breeds. Only purebred barrows are eligible to show. At most state fairs and at the National Swine Show, however, there is provided in addition a classification for grade and cross-bred barrows. After the showing by breeds has been completed according to the above schedule, the interbreed competition is begun, according to the following plan.)

12. Champion barrow (lightweight), 170 and under 200 pounds (all first-prize pigs of the different breeds eligible to show)

13. Reserve champion lightweight barrow

14. Champion barrow (medium-weight), 200 and under 230 pounds

15. Reserve champion medium-weight barrow

16. Champion barrow (heavyweight), 230 and under 260 pounds

17. Reserve champion heavyweight barrow

18. Grand champion barrow of show

19. Reserve grand champion barrow

20. Grand champion pen of barrows

21. Reserve grand champion pen of barrows

22. Ten barrows, 170 to 200 pounds, or 200 to 230 pounds (open to all breeds)

23. Ten barrow carcasses

Carload of not less than 25 head, any breed, cross, or grade

24. Carload, 150 and under 200 pounds

25. Carload, 200 and under 250 pounds

26. Carload, 250 and under 300 pounds

27. Champion carload

JUDGING BREEDING SWINE

Breeding classes of hogs are more difficult to judge than the market classes. There are a larger number of points to consider, and the different age classes with their normal variations in

type adds a complicating feature. The emphasis also is different. Legs, pasterns, feet, size, the strength of back, and the lines are relatively of greater importance in sows and boars than in the fat barrow, and fat or condition is of less importance.

The general procedure recommended in judging a class of barrows is appropriate for use in studying the breeding classes, except for the fact that more importance is to be placed on observation at a distance. Because of the importance in the breeding animal of legs and pasterns and the ability to walk freely and straight, and because of the greater emphasis placed on strength of back, type, and body proportions it will be best if the students are required to stand back a distance of 15 to 20 feet during most of the time allowed for the inspection of the class.

THE IDEAL TYPE

Our conception of type should be based on a full knowledge and appreciation of the kind of work the sow and boar have to perform. Their function finally is to produce pigs that will meet most efficiently the requirements of the farmer and packer. From the standpoint of the producer it is essential for profitable and efficient production that (1) the sows produce and raise large litters, (2) the pigs individually possess the vigor and feeding qualities which will insure rapid and economical gains, and (3) the pigs be finished in condition and of the meat type described in the previous section of this chapter, to meet the requirements of the packer or consumer.

The type of sow and boar which appears to be most consistent with this kind of performance is the so-called medium or intermediate type. The big or rangy type which was the show ring standard from 1920 to 1930, especially of the larger breeds, was a failure both from the farmer's and the packer's point of interest. From the farmer's standpoint the pigs were criticized because they did not fatten readily, and the sows were deficient in stamina and killed too many of their pigs. From the point of view of the market the pigs had too much skin and bone, were too long in the shank, and were likely to be unfinished in condition and consequently cut out soft carcasses. The old

fashioned thick, chuffy type, called "hot bloods," which was the popular hog from 1890 to 1910, likewise fails to meet present requirements. The pigs lack growthiness, are too fat or lardy at market weight, and the sows do not raise large litters.

SCORING THE SOW

As with the market barrow, some score-card practice is desirable in the case of breeding classes as a preliminary to the actual work of placing, and for the same reasons. Its use will help to familiarize the student with the detailed points and their relative importance, supply him with material for developing his conception of type, and give him terms descriptive of the ideal.

The score-card description given on page 30 for the mature sow attempts to describe in detail the ideal. This is a sow of the medium type, a little larger in size than the farmer wants as a rule, and belonging to no particular breed. It is a model sow obtained by putting together in one individual the best from all our breeds; or by combining in one individual those desirable qualities which are common to all our breeds.

DISCUSSION OF THE SCORE-CARD POINTS

We will discuss briefly now the reasons back of the requirements as described in the score card and elaborate some on the more important general features. This can be done most effectively if the points or details are grouped into the general divisions according to the plan used when simple comparisons are made, as follows: (1) general appearance; (2) forequarters; (3) middle; (4) hindquarters; (5) legs, pasterns, and feet; (6) quality and smoothness; and (7) condition.

General appearance. The size must be judged of course according to the age and condition of the individual. Mature sows in strong breeding condition should weigh from 500 to 600 pounds, and mature boars 600 to 750 pounds. Sows eighteen months old (junior yearlings, generally) in good breeding flesh should weigh 425 to 450 pounds, and boars 500 to 550 pounds. A good standard for gilts and boars twelve months old (senior pigs) in thrifty growing condition is a weight of 375 to

ELEMENTS OF LIVESTOCK JUDGING

Score Card for the Brood Sow

SCALE OF POINTS		STANDARD OR PERFECT SCORE
1	Size (Score according to condition and age)	10
2	Head (Wide between the eyes face moderately dished, medium in length, refined typical of the breed).	4
3	Eyes (Large, prominent, clear)	2
4	Ears (Medium size, strong knuckles not coarse, typical of the breed)	2
5	Neck (Full, slightly arched, medium length, free from creases, blending smoothly with the shoulders)	2
6	Jowl (Full, firm, smooth, neat, not flabby, coarse, or wrinkled)	2
7	Shoulders (Compact, smooth, deep, blending smoothly with the back and sides, well covered)	6
8	Chest or heart girth (Deep, full, large girth)	7
9	Back and loin (Strong, evenly arched high, square-sprung ribs, fairly wide, uniform width, smooth, mellow covering)	13
10	Sides (Long, deep, straight with shoulders and hams, smooth, free from creases or wrinkles)	8
11	Belly and flanks (Belly broad, full, neat, teats prominent, numerous, symmetrically placed, flanks low and full)	8
12	Rump and hams (Rump wide, same width as back and loin, long full, rounding sloping gradually from loin to tail hams deep, wide, thick, firm, muscular, smooth, stifles well covered, junction of hams low and full)	8
13	Legs, pasterns, and feet (Legs medium length, straight and set squarely, bone medium size, clean-cut, pasterns straight, nearly upright, strong, toes together, short, squarely placed)	12
14	Tail (Medium size and length, nicely curled, indicative of size with quality)	1
15	Coat (Fine, straight, thick, smooth, glossy, lying close to the body, evenly distributed, free from swirls color typical of the breed)	3
16	Skin (Healthy, soft, smooth, free from excessive scurf)	2
17	Action and style (Action free and easy, legs carried straight forward, attractive carriage)	3
18	Disposition (Easy to handle, gentle, active, lively)	3
19	Symmetry or balance of points	4
Total		100

By making the following substitutions or changes, the above score card may be used for the boar

2	Head (Wide between the eyes face moderately dished, medium in length, strong and masculine)	4
5	Neck (Full, slightly arched, short, strong, free from creases, blending smoothly with the shoulders)	2
11	Belly and flanks (Belly broad, full, trim, rudimentaries prominent, flanks low and full)	5
20	Testicles (Medium and uniform in size, symmetrically carried)	3

450 pounds. Mature sows and boars in show condition will usually weigh 150 to 200 pounds more than when in breeding condition; yearling sows and boars about 100 pounds more.

These weights may appear somewhat heavier than is practical in view of the fact that the preferred market pig is within the limits of 180 and 240 pounds. But breeding animals should have good size, along with substance and constitution, because the ability of the pigs to make rapid gains is determined in large part by the size of their parents. Also, in purebred herds it is important that ample size be maintained in order to counteract the tendency common in commercial herds for the size and other desirable qualities to deteriorate. And, on the other hand, extremely large sizes should be shunned. Such sows are awkward, tend to lack the maternal instinct, and lie on too many of their pigs.

The type desired is the intermediate—that is, one with more length of body and leg and with less thickness and compactness than the old-fashioned chuffy type, and with less length of leg and more depth and thickness of body than characterizes the so-called big or range type. For the reasons already given, this type meets most exactly the all-round requirements of both the producer and consumer.

The lines and the symmetry of proportions are features of general appearance which are especially important in the breeding classes. The forequarters, middle, and hindquarters should blend smoothly into one another, in a manner to give a symmetrical whole. The top and side lines should be noted particularly. The side lines, from end to end, and from top to bottom, should be straight. The topline should be strong and have an even arch from the ears to the tail. Most hogs lack strength just behind the shoulders and are too steep in the rump. It is more difficult to detect these weaknesses in highly fitted specimens than in those carrying less fat.

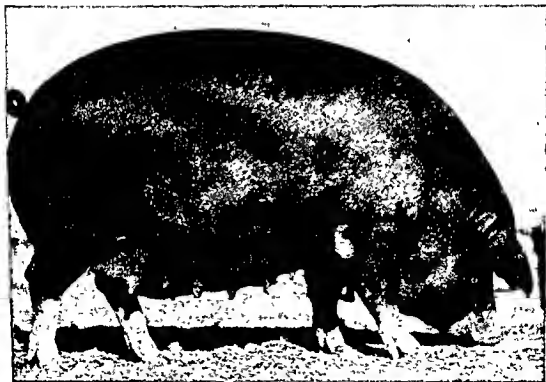
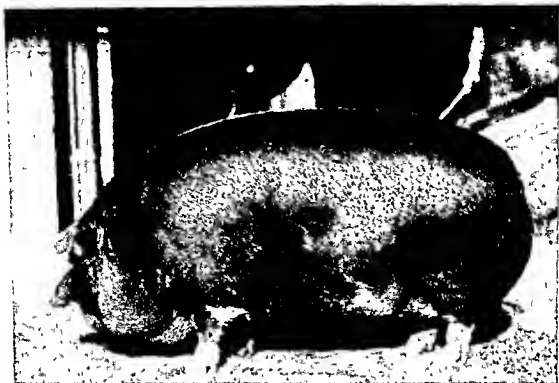
Forequarters. The head of the sow should be studied for evidences of femininity as shown by the refinement and clean-cut appearance of her features. The neck should not be heavy. We want to see evidences of masculine character, without coarseness, in the head and neck of the boar. The more pronounced

these secondary sex characteristics are, the more confidence do we have in their ability to reproduce.

Attention to the eyes is important in the breeding classes. They should be systematically examined, especially in the older classes. In highly fitted show specimens the sight is often obscured by rolls of fat about the eyes. Inability to see, whether the result of blindness or of high fitting, is reasonable grounds for disqualification. A tendency to weak vision or blindness is usually betrayed by the general behavior of the individual when free to move about, by bumping into obstacles. In the show ring, however, the good showman does not allow such revelations to occur. Deafness is perhaps as serious as blindness, but there is no practical way of identifying it in show-ring judging. On the farm, deaf sows are a menace to their own pigs and should be sent to market promptly.

It is difficult to breed good shoulders on hogs. Those who insist too strongly on fine, smooth shoulders are likely to end up with a lack of constitution and substance in their herds. Breeders who ignore this point and select mainly for spring of rib and good middles, on the other hand, are sure to have coarse, heavy shoulders as a most conspicuous trade-mark in their herds. In the selection of breeding stock the safe procedure is to insist on smooth shoulders, especially in the females, along with good depth. Reasonable thickness is desirable, but it should not exceed the width just behind them. Shoulders that are open on top are objectionable, although pigs tend to overcome the fault as they develop.

Middle. A good middle is essential in all breeding animals because of its relation to constitution and to feeding and breeding capacity. The depth of body and spring of rib determine the capacity for the heart, lungs, digestive and other vital organs; and good development in these determines the vigor, constitution, and ability to make rapid and economical gains. The faults most common to be observed here in the sow and boar are a lack of strength and fullness in the heart girth and a tendency to be tucked or pinched in the region of the flanks. Weak backs and flat, pinched loins are also common. The ribs should spring out from the back squarely and break rather



At the top, a good representative of the old-fashioned chuffy or hot-blood type—too short in the legs and too much disposed to fat production. At the bottom, the more nearly modern Poland China type, although a trifle more length of side and fullness of ham would be necessary to make her ideal.

sharply into the sides; and the side lines, up and down, should be nearly straight.

The depth and width of middle in relation to the other dimensions determine pretty much the type of the individual. The amount of middle demanded by the judge expresses his type preference or standard. Less depth and thickness in proportion to the length of body and legs is characteristic of the younger classes and individuals in a moderate condition of flesh. The judge, therefore, must keep this modifying effect in mind in reviewing the different classes. To select winners for the respective age classes that will have at maturity, in the same condition of flesh, the same type, represents the most difficult part of the judging assignment.

A good underline in the sow is one showing five or six prominent, well-placed teats on each side, and is the best evidence of her ability to perform her principal function of producing and nursing large litters. To give room for full mammary development, the belly should be broad, which is shown by full flanks, straight side lines, and good thickness of body. The teats develop with age, and normally should be more prominent in the older classes than in the gilt. Due to the higher condition characteristic of the older classes, however, they often do not appear as well developed.

More weight should be given to good teat development in all the age classes than is customary in show-ring judging. Smooth underlines should be examined carefully for inverted or "blind teats." These have never "come down" or evaginated, and of course cannot function. Spoiled udders, likewise, should be discriminated against in exact proportion to the degree that they are likely to limit the nursing ability of the sow. Prominent development of the rudimentaries (rudimentary teats) in the boar is believed to bear some relationship to the mammary development of his daughters.

Hindquarters. A wide, full, long rump is necessary for a good ham, and one of the best indications of the muscular development of the ham cut. Good width in this region is desirable also because it is associated with the ability of the sow to give birth to her pigs easily. Full hams due to muscular

and not spreading. Lack of attention to the feet is often responsible for many of these conditions. Free, straight, easy action is not possible without good legs, pasterns, and feet. Lameness, stiffness, soreness, crampiness, although they may be of a temporary nature, are faults which must be dealt with by the judge according to their seriousness. Severe lameness should amount practically to disqualification for high honors.

Quality and smoothness. Quality is the mark of good breeding. It means fineness as opposed to coarseness, or grossness and is shown in hogs by a fine, smooth hair coat, clean, hard bone, fine ears, thin skin, and a clean-cut appearance about the head. It is more common in small than in large hogs, and it is associated with early maturity or the disposition to fatten easily. The right combination of quality and substance is ideal. The good breeder and judge follows the safe rule demanding all the quality possible, so long as ample size and substance are not sacrificed.

Lack of smoothness tends to accompany a lack of quality. Coarse, heavy shoulders are usually rough, and thick, coarse skin is likely to be associated with a rough hair coat, coarseness in the features of the head, and creases on the neck, shoulder and sides. A swirl or whorl on the topline is a disqualification in the case of some breeds, in all cases it should be seriously discriminated against in the show ring. Such animals should not be used for breeding purposes. Roughness which is due to improper fitting or overfitting, however, bears no relation to general coarseness.

Condition. The matter of condition or degree of fatness was not mentioned in the score card, but its presence is judged by its effect on the form, lines, symmetry, and smoothness. The amount of fat influences especially the width and depth of body and the fullness of the hams. The manner in which it is laid on and its quality influence the lines, smoothness, and firmness of the hog. Although high fitting for show is generally harmful to the breeding qualities, and always expensive, a reasonable degree of fatness is desirable because it is necessary in order to express the full breeding possibilities of the individual. Boars and sows that can carry easily the an-

of fat which would be necessary in a properly conditioned fat barrow, and keep it smooth and firm, have demonstrated the possession of a most valuable hereditary trait.

SIMPLE COMPARISON

The general points just discussed, when reproduced on the type of judging card used in many junior contests and in class exercises where simple comparisons are made, would appear as given below. The percentage figures are to indicate the relative importance of the different points.

Judging Contest Card for Breeding Swine

Class No

Class Name

Contestant's No

GENERAL POINTS	PLACING				GRADE
	1st	2nd	3rd	4th	
General appearance—25 per cent (Size, general type, symmetry)					
Forequarters—15 per cent (Head, neck, shoulders)					
Middle—20 per cent (Back, loin, side, underline)					
Hindquarters—15 per cent (Rump, hams)					
Legs, pasterns, and feet—15 per cent					
Quality and smoothness—10 per cent (Hair coat, bone, creases)					
Final placing					
Judge's grade					

PLACING WITH WRITTEN REASONS

The short time and limited space allowed for the written reasons in contests makes it desirable to have an outline more simple than the one shown in the card above. The essential features may be discussed in logical sequence if the student uses the following order and points as a guide:

ELEMENTS OF LIVESTOCK JUDGING

1	Size and general type	25 per cent
2	Form and condition	30 per cent
3	Legs pasterns and feet	15 per cent
4	Quality and smoothness	10 per cent

SOME USEFUL DESCRIPTIVE TERMS

As an aid in giving reasons for the breeding classes of swine, the terms given below will be found useful in making accurate comparisons

Size and general type

Ideal Large growthy deep long wide body acceptable type type even in width and depth well balanced symmetrical

Common faults Small light narrow shallow body rangy too leggy too low set too thick too compact off type tapers from front to rear lacks balance

Form and condition

Ideal Typical head and ear prominent eye typical ear strong and masculine head in the boar feminine in the sow smooth compact shoulders full heart girth strong behind the shoulders strong back and loin evenly arched topline deep straight long sides full flanks nice turn to the rump heavy hams deep thick full hams nicely finished good condition

Common faults Too long or too short in the snout too much dish or too straight in the face too narrow weak eyes blind heavy coarse open in the shoulders sharp on top of the shoulders dipped or weak just behind the shoulders weak back steep flat rump shallow bodied short sides tucked in the flanks light hams shallow flat hams fish backed thin in condition overdone or too fat

Legs pasterns and feet

Ideal Straight legs strong bone strong pasterns straight short pasterns sound well-shaped feet free easy, straight action.

Common faults. Light or too fine in bone, too heavy or coarse in bone; knock-kneed, crooked hind legs, stands too close at the hocks; weak, long, broken-down pasterns; splayfooted, pigeon-toed; cocked ankles or knuckles over on the rear ankles; weak feet, spreading toes; lame, sore, stiff, crampy; interferes in front, crosses-over behind.

Quality and smoothness:

Ideal. Shows quality in head, bone, and hair coat; refined features about the head and ear (in females), clean bone; fine, straight hair coat; skin smooth, free from creases or wrinkles.

Common faults. Coarse; shows coarseness in head, bone, and hair coat; rough, coarse shoulders; creased on top of the neck, along the shoulder sides, or sides.

SAMPLE CARD WITH WRITTEN REASONS

The general plan recommended for writing reasons for a class of breeding swine is the same in principle as the one used for the fat barrow classes. This is explained in detail on page 19. But regardless of the outline followed, to be good the reasons must be (1) accurate, (2) fairly complete, and (3) stated clearly and with emphasis on the larger differences between the individuals of the respective pairs.

The reasons on page 40 which were written for a class of Duroc gilts, judged in a junior contest, represent a near model so far as form and accuracy are concerned. The gilts were correctly placed and the reasons were given a grade of 48 out of a possible 50. The judge thought the student should not have failed to mention, in the second pair, the advantage which 2 had over 1 in the strength of her rear pasterns.

PLACING WITH ORAL REASONS

Although the time allowed for giving oral reasons for classes of four is usually limited to two minutes, there is the opportunity for a more complete discussion than is possible when the reasons are written. But it is equally important in oral

LIVESTOCK JUDGING CONTEST

Contestant's number: 43 Date: June 20, 1939

Class. Duroc Jersey Gilt

Placing: 1st: 4 2nd: 2 3rd: 1 4th: 3

Number 4 was placed first over Number 2 second.

Number 1 was more growthy, better balanced, stronger behind her shoulders, stood on straighter front legs, had heavier hams, and more prominent teats than 2. Number 2, however, had a finer hair coat and more quality than 4.

Number 2 was placed second over Number 1 third.

In the second pair, I will concede that 1 was a little larger and stronger in front pasterns than 2 but 2 had a more typical Duroc head and ear, was more even in her width, deeper in her hams, and smoother than 1.

Number 1 was placed third over Number 3 fourth.

Number 1 was an easy winner over 3, although 3 was a larger gilt with more bone. However, 1 followed the type of 4 and 2 more closely, stood straighter on her front legs and pasterns, and had more quality than 3. Number 3 was too leggy and coarse and very crooked in the hind legs.

as in written reasons that a simple outline or plan be followed in organizing and presenting them. The plan and general procedure recommended for all classes is explained on page 22. To be serviceable and a real help to the student, this plan should be mastered or mentally fixed by many practice drills.

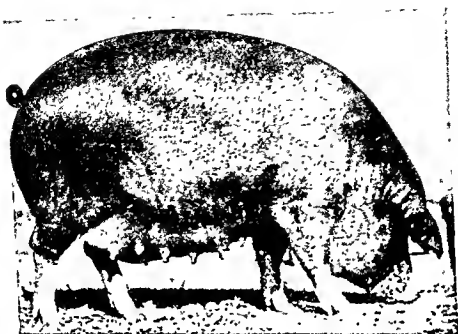
The reasons below are as given orally for a class of aged Poland China sows, shown on pages 42 and 43. It will be profitable if the student studies these pictures carefully and arrives at a definite conclusion concerning his placing before reading the reasons. The sows shown supply the material for a most valuable study in mature, fitted brood sow type and of the other features which are likely to be most important in affecting the decisions of the judge. The class was placed officially in the same order as shown, 1—2—3—4.

"My placing of this class of Poland China sows was 1—2—3—4.

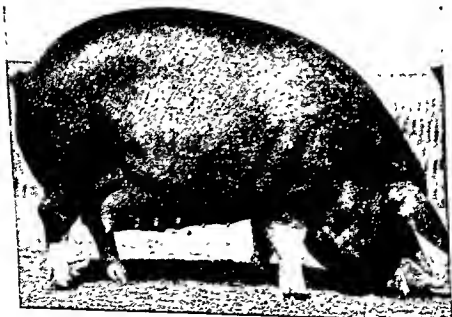
"I considered the first pair very close. I preferred 1 over 2, however, because she was longer bodied, more perfectly proportioned as to type, and showed a little more quality about the head. She was neater in her jowl, smoother along the shoulder sides, was firmer fleshed, and walked with more ease and freedom than 2. I will concede in favor of 2 that she was deeper in her heart girth and sides, and was thicker in her lower hams than 1. *The greater width of Number 2 was due to her higher condition.*

"In regard to the second pair, 2 and 3, I will concede that 3 was a larger sow than 2 and stood straighter on her hind legs. Yet I considered 2 an easy winner chiefly because she was big enough, was more acceptable in her type, was smoother, and showed more feminine character and quality than 3. Number 2 also was deeper in her body, smoother along the sides, finer in her hair coat, and was much to be preferred in the number and soundness of her teats and udders than 3.

"In the last pair, both sows were a bit rough and faulty in their underlines. Although 4 was less leggy in her type



Sow Number 1



Sow Number 2



Sow Number 3



Sow Number 4

than 3, Number 3 was an easy winner because she was stronger in her back, had a more typical Poland head, was neater in the jaw, had a more open eye, stood more squarely on her legs all around, and was less defective in her teats than 4. I faulted 4 especially for lack of quality, smoothness, and femininity.

BREEDS OF SWINE

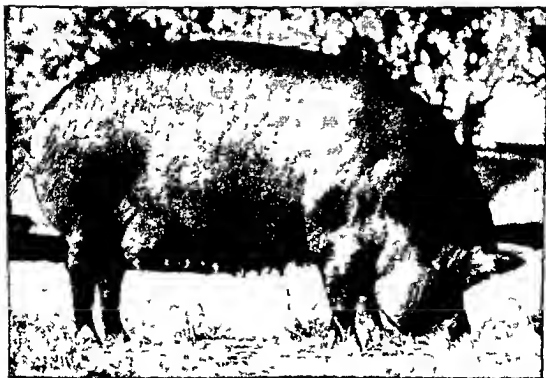
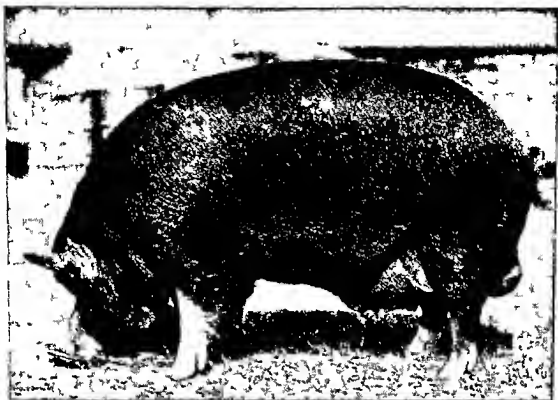
With the exception of the Berkshire, all of the popular breeds of swine in the United States have been developed in this country. These belong to the so-called lard type. The Tamworth and Yorkshire, which are of the bacon type, had their origin in England.

The model sow which was discussed in the previous section is a composite of the best in our various lard breeds. This ideal sow was described as intermediate between the extremely compact, chuffy kind, on the one hand, and the extremely big, rangy kind, on the other. Practically all the breeders are now seeking to produce the type which possesses the essential features of this ideal, and yet which retains the characteristics which are peculiar to their respective breeds.

BREED-TYPE FEATURES

The characteristics which serve to distinguish one breed from another comprise the breed type features. These are concerned mostly with the characters of color, set of ear, dish of face, etc. Although these breed type features have no direct connection with practical performance, they should be considered when judging purebreds in the breeding classes. In the case of the color markings especially and to a lesser degree with head and ear features, the breed associations have specified certain limits within which the individual must come, in order to be eligible for registration. An individual which does not meet these requirements should of course be disqualified in the show ring.

We will review now briefly the characteristics of the common breeds for which classifications are provided at the large shows.



At the top, Berkshire boar Prince Leader 8th grand champion Illinois (National) State Fair, 1910, shown by Pomeroy Farms, Barrington, Illinois
 At the bottom Berkshire sow Sycamore Frisky Girl, grand champion Illinois (National) State Fair, 1937 and 1938, shown by Conner Prairie Farm, Noblesville, Indiana

BERKSHIRE

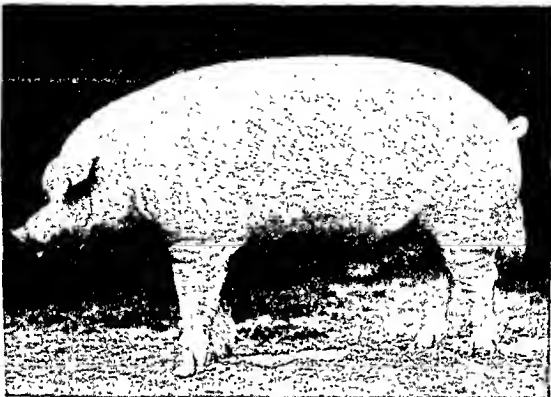
This old English breed is medium as to size and length of leg, but considerably longer of body compared with height than the other breeds. It is somewhat more dishied and shorter in the face also, but the old time pug nose is strongly objected to. The ears are carried fairly erectly, especially in the younger ages. Even in the older classes, they should not drop so low as to obscure the vision. The breed is noted for its muscular development, square sprung rib, and superior carcass quality. Excepting the Hampshire, it also is more active than the other lard breeds. Too many specimens, however, are heavy in their shoulders. In color they are black with the six white points. Slight variations from this standard, such as a little extra white, or the absence of white in the switch or on a foot, however, is not considered important. The presence of red or sandy hairs in the coat is objectionable, depending on its amount and distribution.

CHESTER WHITE

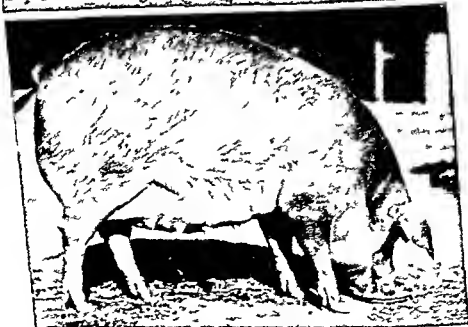
This breed, which originated in Chester County, Pennsylvania, is white in color and very similar in general body type and in head and ear features to the Poland China. It is not so large, however, as either the Poland or Duroc. It is medium as to length and dish of face and has medium sized, drooping ears that should break about at the halfway point. Although the type varies somewhat at the present time, the medium or intermediate is the standard. The breed is noted for its prolificacy, quality and good carcasses. The absence of pigment in the skin makes it sensitive to sun scald in the hotter climates. Blue or black spots on the skin are objectionable, depending on their extent. A well-defined dark spot with colored hair, however, amounts practically to disqualification.

DUROC JERSEY

The Duroc, which was originally developed in New York and New Jersey, is one of the most widely distributed breeds



At the top, Chester White boar White King 419059, grand champion at the Indiana State Fair in 1934 as a junior pig and in 1938 as an aged boar, bred and shown by Karsk Bros., Pecatonica, Illinois. At the bottom, grand champion Chester White sow, Indiana State Fair in 1937, bred and shown by R. I. Rudasill, Molino, Missouri.



At the top Grand Parade grand champion Duroc Jersey boar at the Indiana State Fair 1939 and junior champion same show 1938 shown by Dr O P Bennett Washington, Illinois. At the bottom, Champion Baby Girl 1st, grand champion Duroc Jersey sow at the Iowa State Fair, 1939 shown by R. L. Smith Farms, Stanley Kansas.

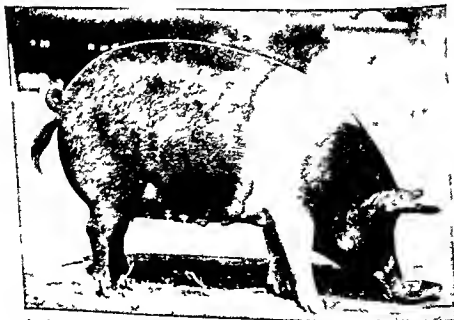
in the United States. The preferred color is a cherry red, some breeders prefer the darker shades and others the lighter. When the color fades to a very light shade on the legs and pasterns, it is objectionable, when the feet and pasterns are practically white, it should result in severe discrimination—if not disqualification—in the show ring. Black spots on the skin should be discriminated against according to their size. The head and ear characters are practically the same as described for the Chester White. This is one of the larger breeds in which many of the show ring specimens are still too much on the leggy order. Its reputation with the farmer has been due to the ability of the sows to raise large litters and the capacity of the pigs to make rapid gains in the feed yard.

HAMPSHIRE

This breed had its beginning in Boone County, Kentucky. Its most distinguishing characteristic or trade mark is its striking color of black with a belt of white including the forelegs. The belt must be complete if the individual is to be accepted for registration. Another disqualification is white on the hind legs which extends above the hocks on the lower hams and under line. A white switch with white hind legs below the hocks, however, is not considered serious. Another striking characteristic of this breed is its vigor and activity. Its rustling qualities and ability to raise a large proportion of the pigs farrowed are the result of this. Its features are clean cut and its quality striking. The Hampshire has a rather narrower, straighter, and longer face than is typical of the other breeds. The ears should not be drooping nor, on the other hand, carried so erectly as in the Berkshire. It is the lightest of the so called lard breeds, yet large enough to meet utility requirements.

POLAND CHINA

Since its early development in southwestern Ohio, the Poland has occupied a leading position in this country. It is the largest of our breeds and in its history has undergone more extreme type changes than any other. The type sought now is a large



At the top Silver Clansman the All American Hampshire aged boar for 1939 owned by Cesor Farms Farmington Michigan At the bottom Special Pet, the All American senior yearling Hampshire sow for 1939 owned by Fontana Farms, Fontana, California.



At the top, Monitor, grand champion Poland China boar at the Illinois (National) State Fair, 1910, shown by Ravenwood Farms, Morton, Illinois. At the bottom, Model Miss, reserve grand champion Poland China sow at the Illinois (National) State Fair as a junior yearling in 1938, and top selling sow in 1939, bred by O J Hess, Worthington, Iowa.



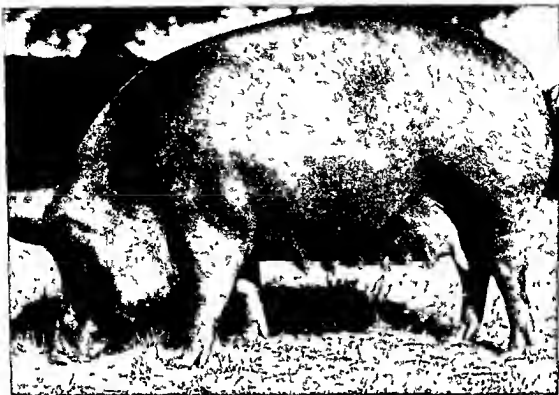
Miss Rosewild the grand champion Spotted Poland China sow at the Iowa State Fair, 1939 shown by Hansen Bros., Gowrie, Iowa.

hog with depth, thickness, and quality. They are black with six white points. A little extra white, which is not uncommon, is not seriously objected to. The type of head and ear is similar to the Chester and Duroc, but in profile the face has a little less dish. The qualities which have made the Poland popular with the farmer are the heavy weight and condition of the pigs at market age, good nursing qualities on the part of the sows, and their size combined with quality and smoothness.

SPOTTED POLAND CHINA

As the name suggests, this breed is essentially a Poland China in which the tendency to spotting has been encouraged by selection. The standard for color at the present specifies that the amount of white on the body, excluding the legs and head, shall not be less than 20 per cent nor more than 80 per cent. Variations outside these limits, however, have not always been treated in the show ring as disqualifications, but as objectionable.

Forty to 50 per cent of white is the proportion desired. The white should be in clearly defined spots rather than scattered and mixed with the black. In general body type and head features it has followed closely the pattern of the Poland China. It is the youngest of our accepted breeds. Its early development occurred in Indiana.



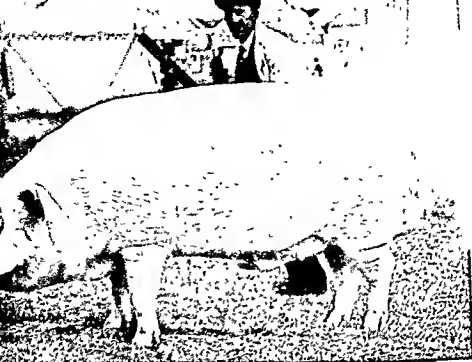
A grand champion Tamworth sow—an exceptionally fine representative of the breed.

TAMWORTH

This English breed of bacon hogs is golden to cherry red in color, with a long, straight face and fairly erect ears. A flesh-colored skin is desirable. Black flecks are tolerated, but large black spots are objectionable. It is noted for its smooth shoulders and sides, unusual activity, good rustling qualities, and the ability of the sows to raise large litters. It should be judged strictly according to bacon standards, that is, with emphasis on smoothness, length of sides, and moderate thickness or condition.

YORKSHIRE

The Yorkshire is the leading bacon breed of the world. It is of English origin and white in color. It is somewhat larger and longer than the Tamworth and relatively shorter of leg. The ears should be carried fairly erectly and the face should be medium as to length and with somewhat more dish than is



Histon Mollington King, grand champion Yorkshire boar at the English Royal Agricultural Society Show, 1939. (Courtesy *The Farmer and Stock-Breeder*, London)

characteristic of the Chester or Duroc. Its superior bacon qualities are the result of long, deep sides, its good thickness and muscular development, and its meaty hams. Probably no breed, excepting the Danish Landrace, equals the Yorkshire in the ability to nurse successfully a large litter of pigs.

SHOW CLASSIFICATION FOR BREEDING SWINE

The following classification is typical of those maintained at the important state fairs and national shows for the breeding classes of swine:

1. Aged boar
2. Senior yearling boar
3. Junior yearling boar
4. Senior boar pig
5. Junior boar pig
6. Aged sow
7. Senior yearling sow
8. Junior yearling sow

9. Senior sow pig
10. Junior sow pig
11. Senior champion boar
12. Junior champion boar
13. Grand champion boar
14. Reserve grand champion boar
15. Senior champion sow
16. Junior champion sow
17. Grand champion sow
18. Reserve grand champion sow
19. Old herd, owned by exhibitor
20. Young herd, bred and owned by exhibitor
21. Get of sire
22. Produce of dam

Ages are reckoned from March 1 and September 1. A junior pig must have been farrowed on or after March 1 of the year of the show; a senior pig on or after September 1 of the previous autumn and before March 1 following. Junior and senior yearlings, respectively, must have been farrowed between the same dates as the junior and senior pigs, but of the previous year. Aged boars and sows must have been farrowed before the earlier date, September 1, of the senior yearlings.

First-prize winners in the aged, senior yearling and junior yearling classes show for senior championship. First-prize senior and junior pigs show for junior championship. The senior champion shows against the junior champion for grand championship.

A herd is composed of one boar and three sows. In an old herd the individuals may belong individually in any of the aged, senior yearling or junior yearling age classes. A young herd is a boar and three gilts, belonging in either or both the junior or senior pig classes.

The get-of-sire group is composed of four animals, any age, of either or both sexes, the get of one boar. Produce-of-dam group consists of four individuals, any age, of either or both sexes, the produce of one dam.

There are sanitary regulations and other restrictions govern-

ing the eligibility to show Only purebred and registered animals can show All hogs must be immunized against cholera Senior yearling and aged sows must have produced living offspring within twelve months preceding September of the year shown and show evidence of having suckled same, all boars of like ages shall have sired pigs within the same period Boars over one year in age must have their tusks removed before showing

CHAPTER 3

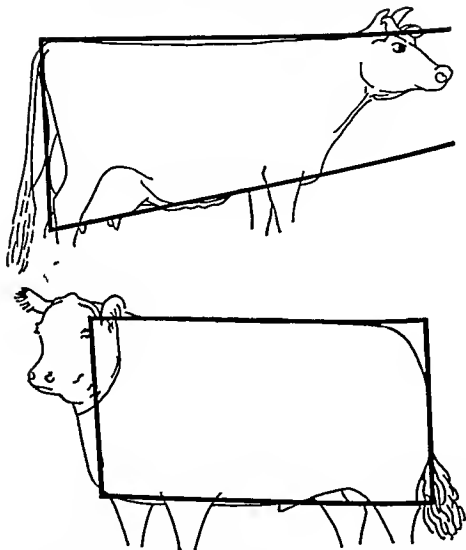
Dairy Cattle

A GOOD dairy cow is one which is able, with proper feeding, to produce economically a large milk flow. In addition to this everyday performance at the pail, she should produce calves which, when properly developed, will be able to maintain if not improve on the production records of their parents.

THE DAIRY TYPE

The work which the cow has to do as a producer of milk has given her a type distinct from that of the meat producing animal. It is logical to believe that this type was created originally by selection for breeding purposes of heifers whose mothers were good producers. Through more than one hundred and fifty years of systematic breeding, the dairy type has become fixed in all the dairy breeds and is now recognized as the trade mark of milk producing ability. The so called dairy type, therefore, is the result of the development by breeding of those functions which are directly connected with the production of milk.

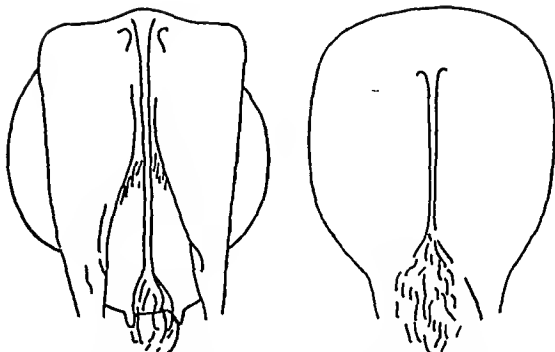
The dairy type is described as one which is lean, angular, and wedge shaped. In contrast, the beef type is compact, full fleshed, and boxlike in conformation, with the corners all rounded. Most of this difference is due to the difference in the amount of flesh normally carried by the two types rather than to skeletal differences. The beef type is strong muscled and its food energies are largely devoted to the laying on of body fat. On the other hand, the dairy type has the temperament which causes it to use its food almost exclusively for the production of milk, at a sacrifice of body flesh.



The dairy and beef types contrasted *Top* The ideal dairy cow is angular and wedge shaped her lines break rather sharply and she presents a spare condition of flesh when in milk. *Bottom* In contrast, the beef animal is compact and boxlike in his proportions full made smoothly turned and full fleshed in appearance

PHYSIOLOGICAL FUNCTIONS WHICH SUPPORT PRODUCTION

From the standpoint of the practical dairyman there are three fundamental characteristics of the good dairy cow These

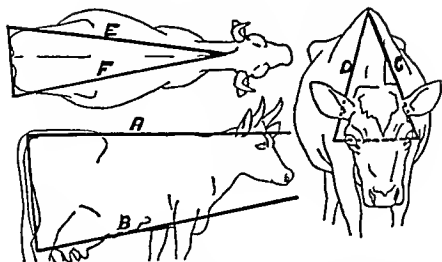


In these diagrams (rear view) the dairy and beef types are contrasted.

are (1) a large capacity for the consumption and digestion of feed, (2) a strong dairy temperament, and (3) a large and efficient development of the milk-secreting glands. The importance and interrelation of these will be discussed briefly.

Capacity. The milk-producing ability of a cow, over a long period, can never exceed her digestive capacity. The digested feed elements represent the ultimate raw material out of which the milk is manufactured. If this raw material is lacking because of the limited capacity of the cow to digest and transport to the milk-secreting glands the feed products, or if the supply of these materials is limited because the ration is not properly balanced or is fed in insufficient amounts, the production of milk will suffer. With many cows, even when the rations supplied are liberal and balanced, the milk production is light because the capacity to consume feed is limited.

Capacity to consume and digest a large amount of feed is indicated chiefly by the size of the barrel or the roominess of the middle. Length and depth of the middle and a wide spring of middle and back ribs are features connected directly with feed capacity. It is to be observed also that cows with large

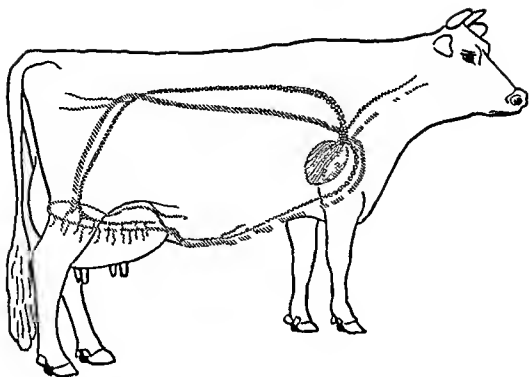


Diagrams to show the location of the three dairy cow wedges. If the top line A and the bottom line B were extended forward they would meet at a point in front of the cow, forming a wedge. Because of the sharp withers and width at the floor of the chest, the side lines D and C meet at the withers forming the apex of a wedge. Viewed from above, the third wedge is outlined by the lines E and F. Compare with illustration on page 63.

feed-consuming ability have broad muzzles and large mouths.

Dairy temperament. The second link in the chain of functions underlying the production of milk is the possession of what is known as the dairy temperament. By this term is meant that inherent disposition or tendency on the part of the cow to appropriate her energies to the production of milk rather than to the laying on of body fat. The beef animal of lymphatic temperament uses his feed for the accumulation of flesh, while the cow with dairy temperament uses it for the secretion of milk. A strong dairy temperament results in the withdrawal during lactation of the body fat which has been stored up during the latter stages of pregnancy, and its use for milk production. Cows with pronounced dairy temperament, when receiving stimulating rations, will go even so far as to starve their own bodies as the result of their natural response to this tendency.

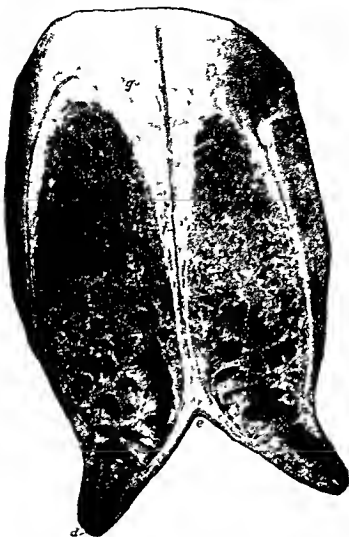
Because of



This diagram shows how the milk secreting glands of the udder are supplied with blood. The dotted lines represent the arteries which carry the blood containing the food material out of which the milk is manufactured to the udder. The other lines represent the veins which carry the blood back to the heart.

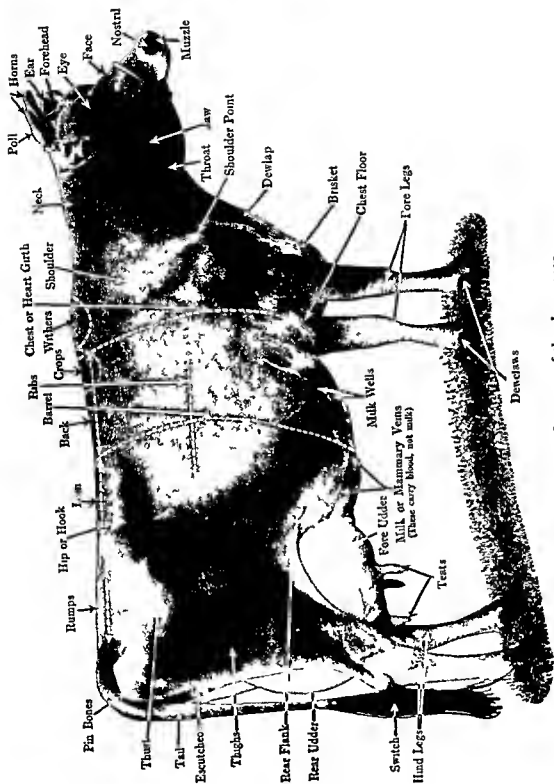
flesh for milk, the best indication of dairy temperament is a lean, spare condition of flesh, especially when in full flow of milk. Any tendency to beefiness, such as a thick neck, coarse withers, fat back, or beefy thighs, indicates beef producing rather than milk producing propensities. This condition of flesh when in milk is to a considerable degree responsible for the lean, angular, wedge shaped appearance of the typical dairy cow.

Milk secreting function. Large digestive capacity will provide the raw food materials, and good dairy temperament will insure the delivery of these to the milk secreting glands of the udder, called alveoli. If the number and efficiency of these glands are large, the secretion of a large flow of milk is assured. Small capacity on the part of these glands whose business it is to manufacture the milk, on the other hand, will always mean a limited production.



Cross section of the cow's udder: a) body of gland, b) milk cistern c) cavity of teat d) teat, e) intermammary groove; f) septum between glands, g) fat. (From *Anatomy of Domestic Animals* by Sisson and Grossman, published by W. B. Saunders Co., Philadelphia)

The number and capacity of the secreting glands for the manufacture of milk are indicated mainly by the size and texture of the udder where they are situated. If the udder is sound, well carried, and capacious in its dimensions and has



The score card points of the dairy cow

that light, soft, spongy feel when milked out, the milk secreting glands may be judged capable of large production. Also, most of the blood which carries the digested food elements to the milk secreting glands passes back to the heart through the so-called milk or mammary veins. The development of these veins is correlated with the development of the milk glands. If the veins are large, prominent, crooked, long, and well branched, it is an evidence of good blood circulation in general and of milk-secreting ability in particular.

SCORE CARD JUDGING

The first lesson in judging dairy cattle should consist of a score-card study of the mature cow in milk. It will be desirable in these scoring exercises if two or more cows which present considerable contrast in type and mammary development are made available. The more nearly the good points and various defects are illustrated with living examples, the more effective the lessons will be in fixing in the minds of the students the ideal as well as the common faults.

The score card on the opposite page describes the essential features of the ideal dairy cow without consideration to color, head, horns, and other breed type features which characterize the different breeds. The best of the popular breeds are practically identical in the characters directly associated with the ability to produce milk.

DISCUSSION OF THE SCORE CARD POINTS

We will now discuss the reasons underlying these requirements as detailed in the score card. To make this more practical it will be advisable to group the details under the following general heads: (1) general appearance, (2) forequarters, (3) middle or capacity, (4) hindquarters, (5) mammary system, and (6) temperament and quality.

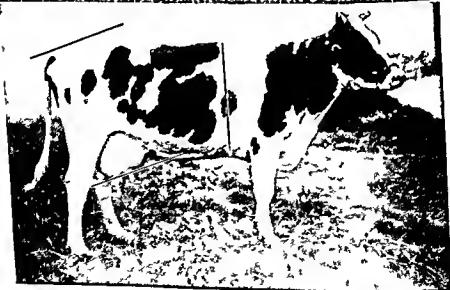
General appearance. Size does not seem to be an important factor in the ability of a cow to produce milk from a given quantity of feed. The smallest of our common breeds the Jersey, weighs on the average from 800 to 1000 pounds and the largest, the Holstein Friesian, weighs from 1200 to 1350 for

Score Card for the Dairy Cow

SCALE OF POINTS		STANDARD OR PERFECT SCORE
1	Size (Medium to large for the breed)	5
2	General form or type (Angular and wedge shaped, level, strong back, long level rump, capacious middle, strong constitution lean, incurving thighs)	10
3	Head (Refined, feminine, broad between the eyes, slightly dished, face medium length, nose straight, clean cut)	3
4	Eyes (Large, prominent, clear, placid)	1
5	Ears (Fine texture, medium size, well carried)	1
6	Muzzle and mouth (Large, broad, mouth large, lips strong, nostrils large, jaws strong, prominent)	2
7	Horns (Fine, typical for the breed)	1
8	Neck (Long, lean, clean at throat, free from dewlap, blending smoothly with the withers)	3
9	Shoulders (Lean, sloping, withers fine, sharp, compact, shoulder points prominent)	3
10	Brisket (Neat, light, dewlap fine)	2
11	Chest (Deep, capacious, wide at the floor, full at the elbows)	5
12	Back (Strong, straight, long, vertebrae prominent and open)	4
13	Barrel (Long, deep, wide, ribs long, well sprung, far apart, well carried)	8
14	Loin (Broad, level, strong)	3
15	Hips (Prominent, fairly wide, level)	2
16	Rump (Long, broad, level, pinbones wide apart, high, thighs wide apart)	4
17	Tail (Long, fine, tapering, switch full, fine)	1
18	Thighs (Lean, incurving, wide apart)	3
19	Legs (Squarely placed, straight, medium length shanks fine)	3
20	Udder (Large, attached high behind and well forward in front, broad and level at the floor, balanced, quarters uniformly developed and evenly joined, mellow, pliable, flexible)	15
21	Teats (Symmetrically placed, plumb, uniform and convenient size, free from defects)	4
22	Milk veins (Large, long, tortuous, branching)	6
23	Milk wells (Large, numerous)	3
24	Hide and hair (Indicative of health, hide medium in thickness, mellow, pliable, hair fine, soft)	5
25	Disposition (Quiet, gentle)	3
Total		100

mature cows in full milk. Performance records seem to indicate, however, that the best producers are medium to large for their breed. In addition to this important fact is the need to counteract the ultrarefining effect which commonly accompanies selections for the show ring.

The particular features which contribute to the angular,



A contrast in constitution and capacity between level and sloping rumps and between a well-carried, balanced udder and one tilted forward and pendulous. A level rump and an udder with a level floor as at the top and a badly sloping rump and tilted udder as at the bottom usually go together (Courtesy U of Ill. Agr Exp Sta. and Ext. Serv Circular 486)

wedge-shaped general appearance of the good dairy cow are a thin, clean neck, fine withers, width at the floor of the chest, good length of middle, great spring and depth of back ribs, a broad rump, and lean, incurving thighs. These, along with a spare condition of flesh, give an outline which is typical of good milkers. The topline should be practically straight, the result of a strong back and loin and level rump, and the middle capacious. These general features will be discussed further under the separate headings below.

Forequarters. The heads of the different dairy breeds differ somewhat in shape and horn setting, but in all there should be evidences of refinement and feminine character. A large mouth and muzzle and strong jaw are believed to be associated with constitution and feed consuming capacity. A clean throat and lean neck are usually found on cows of strong dairy temperament. The shoulders of the dairy cow are light, because of fine withers and the absence of flesh. The breast, viewed from in front, however, should be full and show good width between the front legs, chiefly because it shows constitution. The brisket should be neat and the dewlap fine, since these are associated with quality and a good dairy temperament. The legs of the dairy cow should be medium as to length, and straight.

Middle or capacity. A roomy, capacious middle is characteristic of heavy milkers. It shows constitution and feed capacity. Without constitution, heavy production cannot be maintained for more than a short life span. There is a very close correlation between feed consumption and milk production; the amount of milk secreted over a long period cannot exceed the amount of feed made available above maintenance requirements. Much of the capacity of the good dairy cow is secured through extra length of middle. In such cows the vertebrae and ribs are open or well apart. Although many record cows are a bit weak in the back, it is important that strength here be maintained, since most of the strain of supporting the middle falls on the spinal column.

Hindquarters. The rump should be broad, long, and level, the pinbones high and wide apart, and the thighs lean and incurving. Good length and width in the pelvic region is nec-



Above left The features of a near model Guernsey cow head and neck. *Above right* A model Jersey cow head, which exhibits to an unusual degree the characteristics desirable in this breed. *Left* a Guernsey cow head that is coarse heavy and shows a lack of refinement and feminine character

essary to insure ease in giving birth to the calf. Also, short, steep rumps are unsightly and seem to be associated with badly shaped udders, particularly udders with weak forequarters and a tendency of the udder to tilt forward. Lean, incurving thighs, fine withers, a lean, light neck, and prominent vertebrae are features which in large part are the result of the characteristic lean condition of flesh of the good dairy cow and may be regarded, therefore, as an evidence of strong dairy temperament.

4 The hind legs should be straight to give strength, when viewed

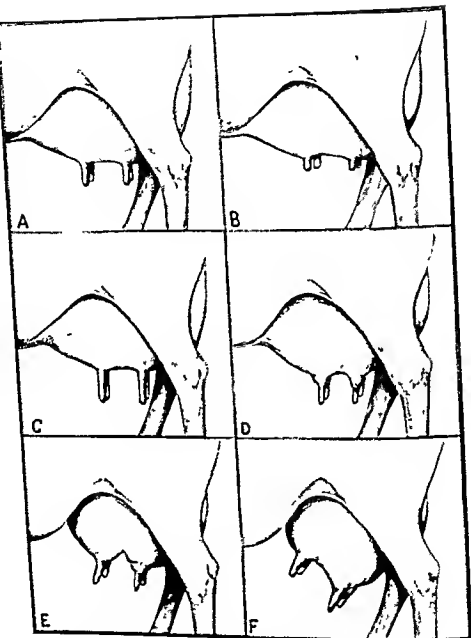
from the rear, the hocks should be set sufficiently apart to give ample room for udder development. A tail long enough to reach to the point of the hock is regarded by many as desirable, since it is associated with open vertebrae and a long middle.

Mammary system. The udder, teats, mammary (milk) veins, and milk wells make up the mammary system. The udder, being the seat of the milk-producing function, is of the largest importance.

The general structure of the udder is shown on page 62. It is a fibrous capsule of four compartments, within which are enclosed the milk-secreting glands (alveoli) and their connecting ducts and cisterns. It is composed of three general classes of tissue: connective, glandular, and fatty. The connective tissues support the structure of the udder and are ramified by blood vessels and nerves; the glandular tissues are concerned directly with milk secretion; while the fatty tissue performs no important function, and when present in noticeable amounts is highly detrimental.

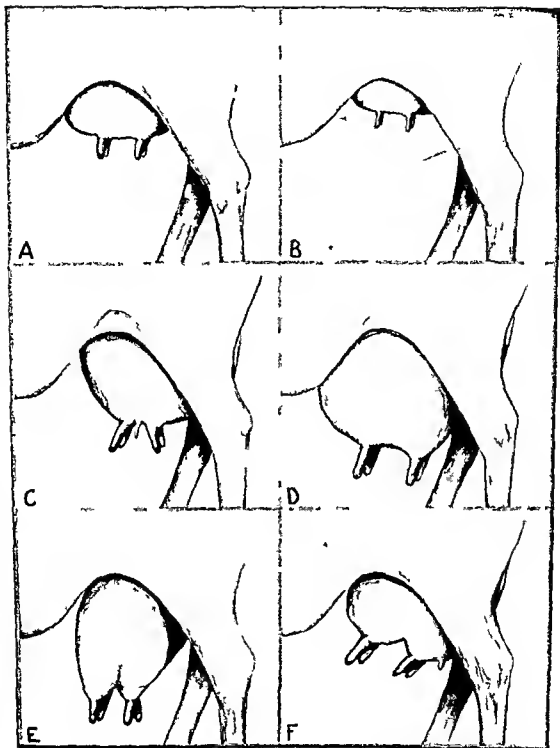
The three important features of an udder which should be determined carefully when judging are texture, shape, and size. Of these three, texture or quality is of the greatest importance and is determined mainly by handling. It should have a flexible, soft, mellow, and spongy feel rather than a hard, heavy, or meaty texture. A soft, mellow udder of good quality usually is covered with a fine, soft skin, through which the veins of the distended udder show plainly. These characteristics can be *determined more accurately after milking than before*. An udder of poor texture is one which contains a large proportion of connective and fatty tissue to glandular tissue. For this reason udders of inferior quality are almost as large after having been milked out as before, while udders of good texture are markedly reduced in size. Good quality and texture in the udder is intimately connected with milk-producing ability. It is probably the most important single character in the dairy cow.

The shape of the udder is a point of considerable importance, especially in show-ring judging. It should be attached high behind, be level and broad on the bottom, and extend well



SOME COMMON FAULTS IN UDDERS AND TEATS

A, ideal udder; B, teats are too short; C, teats are too long; D, teats have enlargements at the base which interfere with milking; E, udder is "cut up" or strictured between front and rear quarters, and the front is weakly attached to the body; F, udder tilts forward with capacity of front quarters much less than that of rear. (Courtesy U. of Ill. Agr. Exp. Sta. and Ext. Serv. Circular 486)



SOME COMMON FAULTS IN UDDERS AND TEATS

A, udder is too small and lacks capacity B, udder is greatly lacking in capacity and teats are too short C, teats are not properly distributed D, udder has a poor front attachment and is poorly developed in the rear, E, udder is funnel shaped and pendulous F, udder is tilted forward (Courtesy U of Ill Agr Exp Sta and Ext Serv Circular 486)

forward on the abdomen. The quarters should be uniformly developed and evenly joined. An udder of this shape will have a larger capacity than one more conspicuous but badly attached and funnel shaped. Although the shape of the udder may be faulty, deep milking cows always have udders of good texture and large capacity.

If the udder is well attached and symmetrically shaped, the teats will be properly placed, otherwise they will not be. In addition to being well placed, they should be sound, plumb, of convenient size, and of the desirable cylindrical, tapering shape. Hard milkers are an abomination, but the teat should not milk so easily as to cause it to leak during the flush periods.

The mammary or milk veins conduct the blood which has passed through the capillaries of the udder back to the heart. They enter the abdominal cavity through holes, called milk wells, in the muscular abdominal walls. It has been definitely ascertained that large, long, tortuous, well branched milk veins are closely correlated with milk producing ability, hence the importance attached to them by the judge and practical dairy man. It is logical to believe, also, that large, prominent veins mean a more generous supply of blood to the milk secreting glands of the udder than do small, short veins. The number and size of the milk wells correspond to the number and size of the branches of the milk veins.

Temperament and quality. The lean, angular appearance of the dairy cow is evidence of her inherent tendency to sacrifice flesh for milk production. This is an expression of dairy temperament. Associated with this lean condition usually are finely chiseled head features, fine withers, prominent vertebrae, thin thighs, and prominent hips and pinbones.

Quality is more or less closely associated with dairy temperament. The evidences of quality are clean-cut, refined features about the head, a lean light neck, fine dewlap, hard clean bone, a soft, fine coat of hair, and a soft, loose, mellow hide. The more quality, the better, so long as general vigor and size for the breed are not sacrificed. Quality stands for breeding and usually accompanies the other desirable characteristics of type, temperament, mammary development, and femininity.

Also, a soft, mellow hide is evidence of a vigorous blood circulation, a function underlying the maintenance of health and the ability to secrete a large milk flow

COMPARATIVE JUDGING OF DAIRY CATTLE

Following a few exercises in scoring, the student should be given the opportunity of making a comparative study of two or more individuals. He may not be required to place these at first, but to compare them with respect to each of the general points of the score card such as just outlined. This comparison may be made most systematically if a printed card, similar to the one illustrated below, is available. This card is the same in principle as the kind used in many junior judging contests in which four animals are judged in each class.

Judging Contest Card for Dairy Cattle

Class No

Class Name

Contestant's No

GENERAL POINTS	PLACING				GRADE
	1st	2nd	3rd	4th	
General appearance—15 per cent (Size general type, lines)					
Head, neck, and forequarters—10 per cent					
Middle or capacity—20 per cent (Constitution, feed capacity)					
Hindquarters—10 per cent					
Mammary system—30 per cent (Udder, teats, milk veins, and wells)					
Temperament and quality—15 per cent (Leanness, hide, hair, bone)					
Final placing					
Judge's grade					

SOME USEFUL DESCRIPTIVE TERMS

The ability to criticize intelligently or to compare individuals accurately depends not only on accurate observations and good

judgment, but also on the command which one has of the commonly used dairy cattle judging terms. Practice and drill in the use of such terms is of particular importance in preparation for contest work when reasons are to be given.

General appearance

Ideal Medium to large for the breed, sufficient size or scale, angular or wedge shaped in general type, straight topline, strong back and loin, level, long rump strong constitution, long, capacious middle, lean incurving thighs

Common faults Small, too fine, delicate, too large coarse, plain, beefy in appearance, short, compact lacks dairy type, weak back, drooping, narrow rump shallow body, narrow chest, weak in constitution, lacks capacity, thick in the neck, beefy thighs

Head, neck, and forequarters

Ideal Head feminine, refined, breedy, typical of the breed, typy head and horn, neck lean, light, shoulders lean, light, sloping, withers fine, shoulder points sharp, brisket neat, triangular breast full, dewlap fine, legs straight

Common faults Head plain coarse, lacks refinement or femininity, horns coarse, plain, not properly set, not typical, neck thick, heavy, coarse, shoulders coarse, heavy, open, winged, thick at the withers, dewlap coarse breast narrow

Middle or capacity

Ideal Chest deep, full, large heart girth, strong constitution, back straight, long, open jointed, loin broad, strong ribs open, well sprung, long, roomy, capacious middle

Common faults Narrow chest, weak constitution, shallow body, lacks capacity, short, weak back, full crops, narrow, weak loin

Hindquarters:

Ideal Hips wide, level, fairly prominent, rump long, broad, level, thighs lean, incurving, wide apart, legs straight

Common faults Hips coarse, too narrow or too prominent, rump narrow, short, drooping, pinched, thighs thick, beefy, legs crooked, sickle hocks

Mammary system:

Ideal Udder large, well balanced, shapely, quarters uniform, evenly joined, attached high behind, level on the bottom, attached well forward, fine, mellow, sponge like texture, skin covering fine and loose, hair soft, teats uniform and convenient size, symmetrically placed, sound, milk veins large, long, crooked, branched, milk wells large

Common faults Udder small, ill shaped, not balanced, pendant, funnel shaped, tilted, cut up between the quarters, hard, heavy, meaty, lacks quality, skin and hair coarse, teats too small or too large, badly placed, defective, milk veins small, straight, short, milk wells small

Temperament and quality

Ideal A strong dairy temperament, as shown by a lean, angular appearance and the possession of the other desirable features described above, refined features, clean cut, hard bone, loose, mellow hide, fine soft hair

Common faults Compact, thick made, beefy, plain, coarse features about the head, horn, and neck, hide thick, tight, stiff, heavy, hair coarse, harsh, bone coarse.

MAKING THE OBSERVATIONS

As with the other classes, some system or order should be observed in judging or 'going over' a class of dairy cows. First, there should be general inspection from a distance of about 20

feet, the cows presenting a broadside view and all headed in the same direction. While in this position the student should study the type, general evidences of mammary development, and the temperament of each cow. The length of body, capacity of middle, the angularity of the form, topline, shape of the udder, set of hind legs, and the character of the head and neck should be noted. The common faults which will be easy to see from this angle are lack of capacity, shallow chest, weak back, drooping rump, fat thighs, thick necks, coarse heads, and crooked hind legs.

Next, the cows should be stood side by side with spaces between of about 10 feet. Close inspection of the cows from the rear should then be allowed, but from in front, the students should be required to stay back at least 10 feet. From the rear should be noted particularly the withers, the spring of back rib, the width of the rump, the thighs, and the udder attachment behind. Most cows are coarse in the withers, too flat in their back ribs, lack strength of loin, are too narrow and low at the tail setting, thick in their quarters and with too little space between them for a full udder attached high behind. From in front should be noted the common faults—a lack of character and breediness about the head and neck, narrow front or a lack of fullness in the breast or brisket set too close on the front legs, and heavy, beefy shoulders.

Close inspection is necessary in judging the mammary development and quality of udder. The udder must be handled or manipulated to determine its quality and texture, particularly to discover any hardness or meatiness and any evidence of lack of soundness in udder or teats, as well as to note more closely the shape and balance of the udder and the placement of the teats. From the right side, the left hand should trace the milk veins on the right side to their wells, noting such faults as a lack of size, branches, and length, and the size and number of the wells. From the left side the same observations should be made with the right hand.

During the last five minutes of the period, the cows should again be stood broadside to the class one behind the other. The left side should be kept open and the students should be

kept back by at least 20 feet; on the right side the students should be allowed to make further close inspection. The importance of giving the students sufficient opportunity to see the cows under conditions where all may be seen at once and accurately compared is so great that the time allowed for this final period might well be eight or ten minutes instead of five.

PLACING WITH WRITTEN REASONS

In the first exercise of this type the cows selected should be fairly easy to place, and the time allowed for writing the reasons should be much longer than will be available in contest work. Later, with four placeable animals in the ring, the conditions imposed should be such as will develop in the student as rapidly as possible the ability to see the important differences quickly, make prompt decisions, and learn the knack of getting down on paper a well-ordered set of logical reasons without delay. During this time it is important that the student cultivate the habit of close concentration on the work in hand, for otherwise these results cannot be attained.

SAMPLE CARD WITH WRITTEN REASONS

Some plan should be observed in writing the reasons. The sample set shown on page 78, for a class of dairy cows which was submitted in a junior contest, is the same in its organization as those recommended for the other classes of livestock, and illustrates in other respects accuracy of observations, good judgment in the selection of the points discussed, and clarity of expression.

PLACING WITH ORAL REASONS

On page 79 is reproduced a set of reasons, as given orally, for placing the class of Guernsey cows pictured on pages 80 and 81. This was a contest ring. The student placed the cows correctly, in the same order as shown, 1—2—3—4. The reasons required about a minute and three-quarters for their delivery. He emphasized the important differences only between the individuals of the respective pairs. They were concise, accurate, and easy to follow. The favorable impression made on the

LIVESTOCK JUDGING CONTEST

Contestant's number 56 Date: June 20, 1939

Class: Dairy Cows

Placing. 1st: 3 2nd. 1 3rd: 4 4th: 2

Number 3 was placed first over Number 1 second.

Number 3 was superior to 1 in her dairy type, capacity of middle, had an udder of better shape and quality, and larger milk veins. Number 1, however, had a straighter back and a nicer head and neck than 3.

Number 1 was placed second over Number 4 third.

Although 4 had a leveler rump and more shapely udder than 1, Number 1 had a more feminine head and neck, finer withers, stronger back, was deeper of middle, and had a larger udder and more branching veins than 4.

Number 4 was placed third over Number 2 fourth.

This pair was very close. Number 2 had more middle, a stronger back, and a larger udder than 4, but 4 was leaner, less plain in her head, her udder was more pliable and better developed in the forequarters than 2.

judges was enhanced also by the earnest manner of the student and the obvious conviction with which they were given.

"My placing of this class of Guernsey cows was 1—2—3—4.

"I placed Number 1 over Number 2 because she was deeper through the heart, more level at the rump, had a more balanced, shapely udder, more uniform teats, was a bit more refined in her features, and showed more pronounced dairy temperament than Number 2.

"In the second pair, 2 and 3, I will grant that Number 3 had a nicer head and horn setting, and was higher at her pinbones than 2, yet I considered 2 a fairly easy winner over 3 chiefly because of her superior mammary development. The udder of 2 had a longer attachment, was more level on the floor, was less cut up between the quarters, was more pliable in quality, and her milk veins were larger, longer, and more branched than in 3.

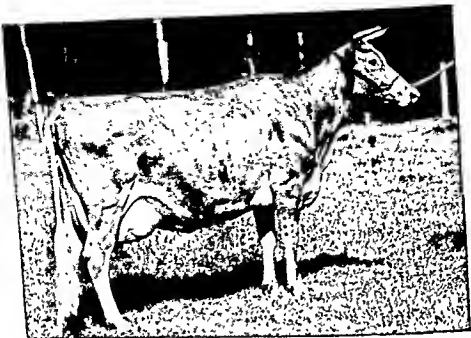
"In the last pair, I considered 3 an easy winner over 4, conceding in favor of 4, however, that she had a nicer Guernsey head and larger and longer milk veins than 3. But Number 3 was stronger in her back, longer and more level at the rump, longer in her middle, and had a much larger, better balanced, and sounder udder than 4. I faulted 4 especially for her small udder, which was defective in both the fore and rear quarters, and her winged shoulders."

EVALUATION OF DEFECTS

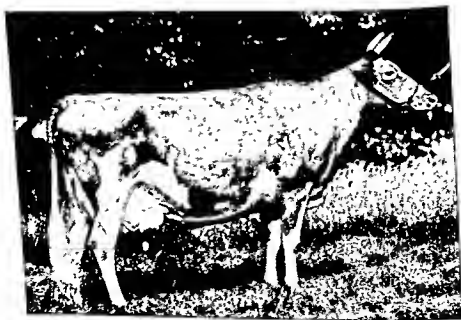
The following rules, formulated by the American Guernsey Cattle Club for the guidance of judges in dealing with certain defects or unsoundnesses in Guernsey cattle, may be followed with profit by judges of dairy cattle generally.

1. Udder.

- (a) One or more blind quarters, side leak in teat—*Disqualification.*



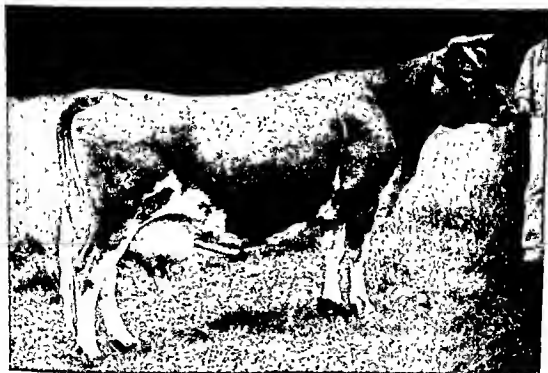
Cow Number 1



Cow Number 2



Cow Number 3



Cow Number 4

ELEMENTS OF LIVESTOCK JUDGING

- (b) Abnormal milk (bloody, clotted, watery) — *Possible disqualification* A slight to serious defect, the degree of seriousness to be determined by the judge
- (c) Udder definitely broken away in attachment — *Serious discrimination*
- (d) A weak udder attachment — *Serious discrimination*, depending on degree
- (e) One or more light quarters, hard spots in udder, obstruction in teat — *A defect*, the degree of seriousness to be determined by the judge
- 2 Feet and legs
 - (a) Marked lameness, apparently permanent and interfering with normal function — *Disqualification*
 - (b) Lameness, apparently temporary and not affecting normal function, such as bucked knees, crooked hind legs, weak pasterns — *Slight to serious discrimination*
 - (c) Enlarged knees — *Slight discrimination*
- 3 Shoulders Winged shoulders — *Slight to serious discrimination*
- 4 Eyes
 - (a) Total blindness — *Disqualification*
 - (b) Blind in one eye — *Slight discrimination*
- 5 Overconditioned — *Serious discrimination*
- 6 Horns An animal that has been cleanly and neatly dehorned and whose head shows true breed character — *No discrimination*
- 7 Dry cows — *In case of cows of apparently equal merit, give preference to cows in milk*
- 8 Minor defects Blemishes or injuries of a temporary character not affecting animal's usefulness — *Slight to no discrimination*
- 9 Testicles Bulls with one testicle or with abnormal testicles — *Disqualification*

BREEDS OF DAIRY CATTLE

The breeds of dairy cattle for which classifications are provided at the larger shows in this country are (1) Holstein Friesian, (2) Jersey (3) Guernsey, (4) Ayrshire, and (5)



Elenora Della Burke several times grand champion Holstein Friesian cow, owned by Dunloggin Farm Ellicott City Maryland

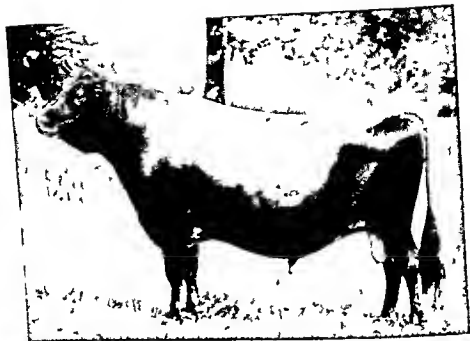
Brown Swiss In the following paragraphs the distinguishing characteristics of each of these breeds are discussed briefly

HOLSTEIN FRIESIAN

The most striking characteristics of this breed are its large size and black and white color. The underline and legs are usually white, the areas of black are large, clearly marked, and usually found on the neck, body, and hindquarters. The most common weights for mature cows in milk are from 1200 to 1350 pounds. Many of the better cows, however, are considerably heavier than this. Mature bulls in good breeding condition should weigh not less than 2000 pounds, a weight of 2200 to 2400 pounds is desirable. This is the most popular breed in America. It is particularly noted for its very mild disposition, large feeding capacity, heavy milk yield of comparatively low butterfat content, and its size and ruggedness. Its native home is the Netherlands.

JERSEY

In size the Jersey is the smallest of our dairy breeds and stands next to the Holstein in popularity. Mature cows should weigh



At the top Pavillon's Prince grand champion Jersey bull Eastern States Exposition, 1934 owned by John Booth Inc. Carbondale Pennsylvania. At the bottom, Design's Martina grand champion Jersey cow Dairy Cattle Congress 1934—a model of beauty and usefulness—owned by Falklands Farms Schellsburg Pennsylvania.

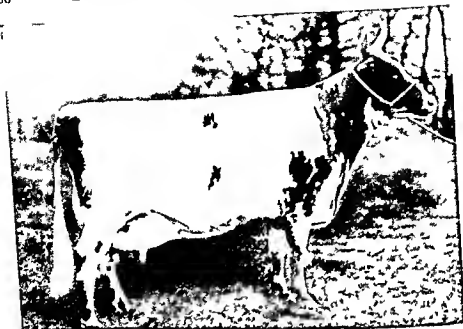


Chief Lady Laura of Guernsey Farm, grand champion Guernsey cow at Waterloo, 1931 and 1932, bred by L. L. Johnson, Russiaville, Indiana, and owned by Bolder Bridge Farm, Excelsior, Minnesota.

900 to 1100 pounds, and mature bulls, 1300 to 1600 pounds. The color most desired is a soft fawn or cream, but various shades of mouse color, gray, brown, and red are common. These may be solid or mixed or spotted with white. The Jersey is especially noted for its beauty, the richness of its milk, its pronounced dairy type and temperament, and quality. It is somewhat more active in disposition than the Holstein. In the Island of Jersey, where the breed originated, it has been bred without admixture of outside blood since 1763.

GUERNSEY

The Guernsey is a sister breed of the Jersey, coming as it does from the neighboring island of Guernsey in the English channel, where it has been bred pure for more than a century. It is somewhat larger and more rugged than the Jersey, less refined in its features, and less active in temperament. Mature cows in milking condition should weigh 1100 pounds and mature bulls in breeding flesh 1700 pounds. The color is



Barr Dairy Queen a model type of Ayrshire cow owned by Strathglass Farm, Port Chester New York.

some shade of fawn, which varies from yellow to reddish, with white markings. Guernsey milk tests next to Jersey milk in richness of butterfat, and the fat is richer than any other in the yellow coloring substance carotene.

AYRSHIRE

The Ayrshire is a medium-sized, picturesque breed of dairy cattle which originated in the county of Ayr in southwest Scotland. They are very active, excellent grazers, and naturally very hardy. The horns are quite distinctive, being long set high, and spreading. The color most desired is white with dark red markings, although the shade of red and the distribution of white varies considerably. Mature cows in milking condition should weigh 1000 pounds or more, and mature bulls in breeding condition, 1500 pounds or over. They are noted also for their well balanced, shapely udders. The milk is low in butter fat content, but tests somewhat higher than the Holstein.



The famous Brown Swiss cow Jane of Vernon at 11 years of age. She exhibits a marvelously developed mammary system, a fine topline, exceptional constitution and capacity, and good dairy temperament. Owned by Lee's Hill Farm, Morristown, New York.

BROWN SWISS

This is a very old breed of cattle which originated in Switzerland. In its native country it is bred rather according to the dual-purpose standard. As bred in America, however, it is strictly a dairy breed. The preferred color is a dark brown or mouse color, shading to a lighter or mealy color along the topline, on the ears, and about the muzzle, and without white markings. The breed is more rugged of bone, more muscular and stronger made, and less pronounced in the angular type than the other dairy breeds. The mature cows should weigh 1100 to 1500 pounds, and mature bulls, 1600 to 2200 pounds. In butterfat content, the milk ranks between the Ayrshire and Guernsey.

SHOW CLASSIFICATION FOR DAIRY BREEDS

As with the other classes of livestock, the dairy breeds show separately from one another, with no interbreed or so-called "sweepstakes classes." On the following page are listed the classes most commonly provided for each breed at the larger shows.

ELEMENTS OF LIVESTOCK JUDGING

- 1 Bull, 4 years old or over
- 2 Bull, 3 years old or over
- 3 Bull, 2 years old or over
- 4 Bull, 18 months old and under 2 years
- 5 Bull, 1 year old and under 18 months
- 6 Bull calf, 4 months old and under 1 year
- 7 Senior champion bull
- 8 Junior champion bull
- 9 Grand champion bull
- 10 Reserve grand champion bull
- 11 Cow, 5 years old or over
- 12 Cow, 4 years old and under 5
- 13 Cow, 3 years old and under 1
- 14 Cow, 2 years old and under 3
- 15 Heifer, 18 months old and under 2 years
- 16 Heifer, 1 year old and under 18 months (not in milk)
- 17 Heifer, calf 4 months old and under 1 year
- 18 Senior champion female
- 19 Junior champion female
- 20 Grand champion female
- 21 Reserve grand champion female
- 22 Senior get of sire
- 23 Junior get of sire
- 24 Produce of dam
- 25 Dairy herd

Dates for computing entries are July 1 and January 1. A junior yearling must have been dropped between January 1 and July 1 of the year preceding the show, a senior yearling, between July 1 and January 1, just preceding the junior yearling dates. A senior calf must have been dropped between July 1 of the year preceding and April 1 of the year of the show.

Cows thirty six months old or over on August 1 of the year shown must have produced a calf carried to maturity within eighteen months preceding the date. Any bull thirty six months old or over on August 1 must have had one or more living calves dropped to his service during the twelve months preceding said date.

The senior get-of-sire group consists of four animals, not more than two to be bulls, the get of one sire. Not more than two of the group may be under two years of age. They need not be owned by the exhibitor.

Junior get-of-sire group consists of four individuals all under two years of age, the get of one sire, not more than two to be bulls. They need not be owned by the exhibitor.

The produce-of-cow group consists of two animals, either sex, any age, the produce of one cow. Produce need not be owned by the exhibitor.

The dairy-herd group is made up of four cows over two years of age that have dropped calves; all in reasonable flow of milk or with udders distended to show close approach to freshening; all owned by exhibitor.

Sanitary regulations of the states now generally require that all cattle entered in the breeding classes shall have satisfactorily passed the test for tuberculosis. It is a question only of a short time until a similar requirement will be made with reference to Bang's disease (contagious abortion); it is a requirement now in several states.

DUAL-PURPOSE BREEDS

The type of cattle bred for the dual purpose of both milk and beef production is intermediate between the dairy type, on the one hand, and the beef type, on the other. The cows are expected to function equally well in the production of steers which will furnish satisfactory market beef, and to yield a flow of milk which will make them profitable producers in the dairy. The model dual-purpose cow is thicker and heavier in her rounds, less fine in her withers, fuller in the crops and spring of forerib, and carries more flesh than the special dairy type; but it is less compact and fleshy, and much superior in udder development to the special beef type.

It is a type very difficult to judge because of the common tendency to depart from the middle ground and to favor too much the beef type, on the one side, or the dairy type, on the other. The variation in type which exists among the herds of dual-purpose cattle is the result of the fact that some breeders



The many times champion Red Polled bull Perfect Model owned by H P Olson Altona Illinois

emphasize meat while others emphasize milk. But the dairy and beef types possess many features in common, the appreciation of which will help to guide the judge of the dual purpose breeds. Both should be feminine about the head and neck, have strong backs, level topline, good depth and capacity of middle, constitution, quality and a loose, mellow hide. A good rule to follow is to prefer the individual which possesses the fundamentals just named and in addition shows all the evidences of mammary development which is consistent with a reasonable amount of flesh.

The two recognized breeds of dual purpose cattle in America are the Red Polled and Milking Shorthorn.

RED POLLED

This breed, which was developed in eastern England, is polled in character and red in color. The preferred shade is a deep, rich red, extremely light or dark shades are objectionable. Some white on the underline back of the navel is not objected to, while some white in the switch is desirable. Any white on the body above the underline disqualifies the animal for registration. The nose should be flesh-colored. The breed is



A near model dual purpose type The 1933 International champion Milking Shorthorn cow, Neralcam Maid 7th, bred and owned by Alexander MacLaren, Buckingham, Quebec, Canada.

medium as to size. Mature cows weigh from 1150 to 1600 pounds, and mature bulls, 1700 to 2100 pounds. The type varies somewhat, depending on where the emphasis is placed by the breeder.

MILKING SHORTHORN

This is a strain of the Shorthorn developed chiefly from a foundation of Bates' breeding in which the dairy qualities are strongly emphasized. The early Shorthorn was pretty much of the dual-purpose type; many of the most useful cows in present-day beef herds of Shorthorns also are of this type. In color and other general features the Milking Shorthorn is the same as the parent breed. As with the Red Polled, there is considerable variation in type, some breeders selecting wholly for milk and others giving consideration to the beef as well as to the milk-producing qualities. The breed is fairly popular throughout the East. A majority of the dairy cows in England, where the breed originally developed, are dairy Shorthorns. The present world's record milk production, 41,641½ pounds in 365 days, is now claimed for the English Milking Shorthorn cow, Cherry.

CHAPTER 4

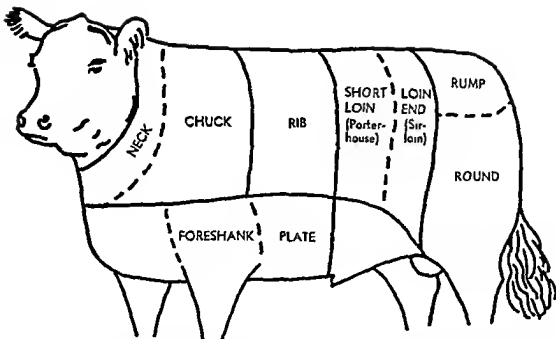
Beef Cattle

THERE ARE two distinct types of cattle, the beef and the dairy. Intermediate between these two is another, designated as the general or dual purpose type. The beef type is compact, deep, wide, low-set, straight in its lines, full made, and thick fleshed. The dairy animal is angular and wedge shaped in appearance, lean in condition, and with pronounced dairy temperament. This distinction in type is the result of a difference in function, or the kind of work they have to perform. The beef animal devotes its energies to the growth of bone and muscle and the production of body fat, while the dairy cow in milk dedicates them almost wholly to the secretion of milk.

THE MARKET TYPE

The requirements of the market for beef have undergone a gradual change during the past forty years. Prior to 1900, steers were marketed generally at three, four, and even five years of age, and at weights ranging from 1600 to 1800 pounds. In the 1890's the two-year-olds began to grow in favor. At the present time the majority of steers are marketed as yearlings, the popular weights ranging from 800 to 1350 pounds. Those weighing from 800 to around 1000 pounds, provided they have the requisite finish and quality, constitute the 'baby beef' class. This change in type has been advantageous both to the producer and the consumer.

The large, old fashioned steer lacked compactness, smoothness, and quality. He was prominent at the hooks and shoulder



Location of the standard wholesale beef cuts. Show steers that are "thick" fat and near ideal in type and quality dress 65 to 68 per cent of carcass to live weight. Choice to prime market steers dress around 62 per cent, and old thin cows 35 to 40 per cent.

points, long in his neck, and leggy, and when fattened was likely to be uneven and rough in his fat covering. The lighter modern kind is more compact, lower-set, better balanced, has more quality, and in market condition is not so likely to be rough or patchy in his flesh.

The carcass of the lighter weight, quality steer is better suited to present consumer requirements. The carcass is less wasty; the size of cuts more nearly meet the modern family needs; and the meat is more tender. The smaller bone, more compact type, and quality mean also a higher yield of dressed to live weight and a greater proportion of the high-priced cuts in the carcass.

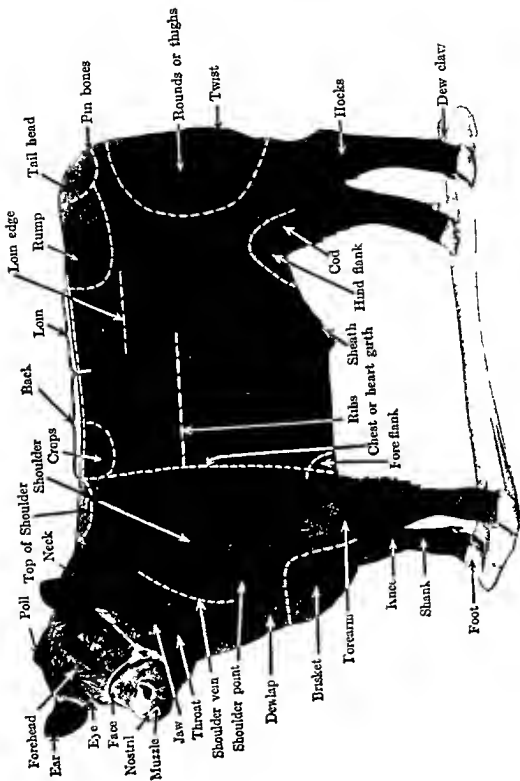
SCORING THE FAT STEER

As with the other classes of livestock, the first step in judging beef cattle should have for its purpose clarifying the student's conception of the ideal. There is no better way of beginning this study than by score-card practice. If this scoring practice

is supplemented or preceded by a critical descriptive study of pictures selected to illustrate various strong and weak features, progress will be more rapid. The score card below describes the ideal fat steer, first in general and then in detail. Practice in scoring, together with the oral and written exercises which should accompany it, will be valuable also in supplying a vo-

Score Card for Fat Steer

SCALE OF POINTS	STANDARD OR PERFECT SCORE
GENERAL APPEARANCE—34 PER CENT	
1 Weight (Score according to age)	6
2 Form (Broad, deep, low-set, blocky, straight top, side, and bottom lines, compact, symmetrical, stylish, standing wide on short, straight legs)	10
3 Condition (Fat, finished, deep, even, firm yet mellow flesh, free from ties, rolls, or patchiness)	12
4 Quality (Refined features about the head and neck clean, hard looking bone of medium size, fine hair, mellow, plausible hide)	6
HEAD AND NECK—7 PER CENT	
5 Muzzle (Broad, mouth and nostrils large)	1
6 Eyes (Large, clear, placid)	1
7 Forehead (Broad, full)	1
8 Face (Short, broad, jaw strong)	1
9 Ears (Medium size, fine texture, well carried)	1
10 Neck (Short, full, neat light dewlap)	2
FOREQUARTERS—11 PER CENT	
11 Shoulder vein (Full)	1
12 Shoulder (Smooth, compact, broad and rounding at the top, well covered)	6
13 Brisket (Trim, neat)	2
14 Legs (Short, straight, wide apart, arm full, shank fine)	2
BODY—32 PER CENT	
15 Chest (Deep, wide, full, crops full)	4
16 Back (Broad, straight, deeply, smoothly, and firmly fleshed)	10
17 Loin (Broad, straight, thickly, smoothly, and firmly fleshed)	8
18 Ribs (Well arched, long, thickly, smoothly, and firmly fleshed)	8
19 Flanks (Full, low)	2
HINDQUARTERS—16 PER CENT	
20 Hooks (Smooth)	1
21 Rump (Broad, level, long, tailhead square and smooth)	4
22 Thighs or rounds (Deep, thick, full)	6
23 Twist (Full, low)	3
24 Legs (Short, straight, wide apart, shank fine)	2
Total	100



The score card points of the fat steer

cabulary of beef cattle terms which will be indispensable later when written or oral reasons are given.

DISCUSSION OF THE SCORE-CARD POINTS

Weight. From the producer or show-ring standpoint, the heavier a steer is for his age and class, the better, provided quality and smoothness are not sacrificed. It is customary to give a full or perfect score if the steer at one year weighs 1000 pounds, at eighteen months 1350 pounds, and at two years of age 1600 pounds. On the market there is no single weight which is most desirable at all times. Owing to variations in the supply and demand, there are times when light, handy-weight steers command the highest price, and other times when the heavyweights are most popular.

Form. In his general appearance the finished fat steer should be broad, low-set, and blocky in his type; straight in his top, bottom, and side lines; and compact and symmetrical. He should be square-headed, short-necked, and stand wide on short, straight legs. It is particularly desirable that he be compact in his shoulders, full in his crops, broad in his back and loin, square at the rump, and heavy in his rounds. This form is associated with high dressing percentage and a high proportion of the more valuable cuts in the carcass. These points can be most accurately observed when walking slowly around the steer at a distance of 10 or more feet.

Condition. The show-ring standard for condition requires that the steer be fat, yet smooth and firm in his fat covering. Steers which are fat enough to win in the show ring are too fat for the usual market trade. In judging the condition, there are three points which one should keep in mind: thickness of covering, evenness of covering, and firmness or mellowness of covering. In fitting steers for show it is extremely difficult to get them thick enough without causing them to become rough, or too hard or too soft. When scoring the fat steer, therefore, special attention should be given to the evenness and quality of the flesh, as well as to the amount.

To judge accurately the condition of a steer, it is necessary to handle him. This is done by pressing the parts to be ex-

amined with the open hand and fingers. The fingers should be kept together and extended. The various parts are usually handled in the following order: the topline, from the top of the shoulders back to the tailhead; the shoulder plates and points; the lower, upper, and back rib; the loin edge; and the tailhead. Both sides should be handled, for it frequently happens that the sides are not the same, especially in smoothness. A finished fat condition is indicated not only by the depth of covering on the carcass, but also by the amount of tongue-root fat, the size of the flank roll, and the fullness of the cod.

The most common faults in condition are a deficiency in the amount of fat covering the loin, on top of the shoulders, and on the shoulder plates; lack of evenness of covering as shown by ties in the back, tallowy rolls on the back rib and loin edge, and patchiness about the tailhead; and a general lack of uniformity in the mellowness and elasticity of the covering.

Condition is important because of the effect which it has on the palatability of the meat. It makes it more tender, gives it better flavor, makes it more juicy, and improves its keeping and shipping qualities. The butcher can afford to pay a higher price for a fat steer than for a thin one, also, because it results in a higher dressing percentage and less offal.

Quality. The indications of quality in a fat steer are refinement of features about the head and neck; smooth, hard bone of medium size; fine, soft hair; and a pliable, soft hide. It is judged with the eye and the hand.

To the breeder of beef cattle, quality in a steer means ability to fatten and be ready for market at an early age, and high selling value when sold. Extreme refinement is not desired by the producer, however, because it may be associated with a lack of size, ruggedness, and feeding capacity. The butcher values quality because it means usually finer texture in the meat and a smaller proportion of cheap meat and offal when the steer is dressed for market.

Head and neck. The feeder of steers has learned that the shape of the head and type of the body are associated. When he sees a broad head and short neck on a steer, he expects to find also a broad back and loin and short legs. To the butcher, the



Angus steer Mercer, International grand champion, 1938 (weight, 1135 pounds), shown by Irene Brown, Aledo, Illinois.

head and neck are important mainly because they represent so much waste and cheap meat. He is interested, therefore, in getting as much refinement and quality in these parts as possible.

Forequarters. An ideal fat steer in high condition is so well covered, compact, and well blended in all his parts that the shoulders are not prominent, but compact, smooth, and well covered. The breast should be broad and the brisket trim and neat, for it represents one of the cheapest parts of the carcass. The forearm or shank should be broad and muscular because it indicates natural flesh or muscle and thick cuts in the carcass. Below the knee, the bone should be short, smooth, and hard.

Body. The back, loin, and ribs represent the most important region in the fat steer. What is wanted here is large area for the development of the high-priced cuts of the carcass.



Here is practically a perfect model of a fat steer—Columbian Red Top grand champion at the 1940 American Royal shown by Columbian Ranch, Blanca Colorado

The back and loin should be broad, straight, and covered evenly with a thick layer of firm, yet mellow, flesh. If the ribs are well sprung, the back will be broad. The crops the region just back of and below the withers, should be broad and full of firm flesh. The ribs should be well padded with a smooth covering and the back rib and loin edge should not show the usual tendency to develop lumps and rolls of fat. The flanks should be low and the underline straight because it means a heavier carcass and less offal in dressing.

Hindquarters The rounds or thighs including the twist, represent one of the most economical and popular cuts in the whole carcass. The more full, heavy and bulging they are the better the steer and the more valuable the carcass. The hooks should be wholly covered with flesh, and the rump should be long level, and as wide as the loin and back. The tailhead

should have a square appearance and be free from excessive accumulations of rough, patchy fat.

COMPARATIVE JUDGING OF FAT STEERS

SIMPLE COMPARISON

Some condensation of the details of the score card is necessary in comparative judging in order to emphasize the larger, more important points and to facilitate systematic observations, as well as to economize on time. A very satisfactory grouping of the essentials is represented on the card shown below. This type of card is used in many vocational judging contests and is particularly useful in the beginning exercises in comparative judging.

The steers selected for these exercises should not be too close, especially at first; they should present some obvious dif-

Judging Contest Card for Fat Steers

Class No

Class Name

Contestant's No

GENERAL POINTS	PLACING				GRADE
	1st	2nd	3rd	4th	
General appearance—15 per cent (Weight, general type, symmetry)					
Forequarters—10 per cent (Head, neck, shoulders, brisket)					
Middle—15 per cent (Crops, back, loin, ribs, paunch, flanks)					
Hindquarters—15 per cent (Hooks, rump, tail setting, rounds, legs)					
Condition—35 per cent (Flesh—thickness, evenness, "touch")					
Quality—10 per cent (Head, bone, hide, hair)					
Final placing					
Judge's grade					

ferences in conformation, amount, and evenness of flesh covering, and possibly also in quality. In succeeding exercises, they should be made closer, with the differences less obvious, thereby sustaining the interest of the student and stimulating keener observation. Two steers should be used for the first exercise, then three, and later four.

PLACING WITH WRITTEN REASONS

Making the observations. Experienced judges always have a plan or method of procedure which they follow in judging or "going over" a class. It saves time and insures a more thorough examination, with nothing of importance missed. Beginners especially should observe a system or plan because they are prone to waste time and fail to see many important points if allowed to go about the work in a hit-and-miss fashion and everyone for himself. Also, it is important that the instructor have the work of the exercise organized to conform to a definite schedule and sees to it that the steers are properly shown. It is necessary to do this in order that all students may have ample opportunity to observe the steers under conditions favorable for comparison.

First, there should be observation from a distance. After the steers have been paraded around the ring twice, they should be lined up broadside to the class, one behind the other. To insure a good view of all the individuals at the same time, the students should be required to stand back a distance at least of 20 or 30 feet. Five minutes is not too long a period to allow for the observations which should be made at this time. This is the most advantageous position from which to make certain accurate comparisons. The depth of body, low-setness, compactness, the topline, the length of neck, neatness of the brisket, the underline, paunch and flanks, the depth and fullness of the rounds, and the set of the hind legs should be noted. Most steers are a bit low in the back; too high or too low at the tail setting; too long in the neck, legs, and middle; lack depth of body and compactness; are coarse or too heavy in the brisket; paunchy; cut up in their flanks; and light in their rounds.



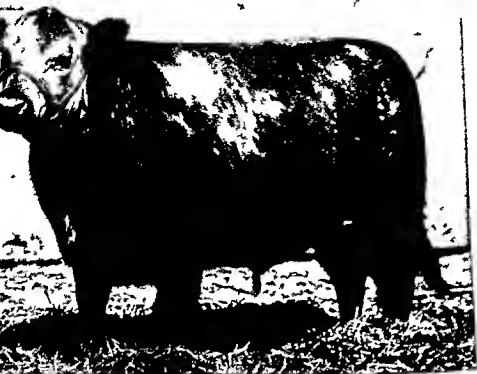
Shorthorn steer Lindenwood Landlord, grand champion, junior division, International, 1939 (age, 14½ months; weight, 1115 pounds), shown by Chester Ebert, Mokena, Illinois.

Close inspection. Next, the steers should be lined up side by side and about 10 feet apart, and closer inspection allowed. For the first few minutes the students should walk slowly around the class, studying each steer from the front and rear, but not handling. From the rear position he should observe particularly the compactness and smoothness of the shoulders, the fullness of the crops, the spring of rib, the width of back and loin, the width of rump, the smoothness of tail setting, the thickness and depth of rounds, and the twist. Standing a little to one side, he should note also from this rear position the side line from the point of the shoulder to the rounds. The most common fault to be observed here is a general lack of width or thickness from end to end. Many if not most steers are a bit heavy and coarse in the shoulders, tucked or flat in the forerib, slack in the crops, narrow in the back and loin, prominent at the hooks, and lack width, levelness of rump, and weight in their hindquarters. Many steers also are too heavy in the

middle or paunch and lack smoothness in the fat covering on the upper back rib, loin edge, and at the tail setting. The steers should be studied individually from the front also, noting especially the character of the head, width and neatness of the brisket, the space between the forelegs, and the smoothness of the shoulders. These observations can be made during the time required to walk slowly around the class.

Handling. During the next ten minutes or so the students should be allowed to handle. The purpose of this is to determine more definitely than is possible with the eye alone the depth, smoothness, and quality of the flesh. The word "flesh" here is meant to include both lean or muscle tissue and fat. A good plan is to start at the shoulder and work back. It is better to use the open hand, with the fingers extended and together, pressing with the fingers, rather than jabbing or poking the steer with the stiffened finger ends. Starting at the top of the shoulders, the thickness and evenness of flesh down the topline should be determined. Next, the covering on the shoulder plate and point should be noted; then the lower forerib, the upper back rib, and the loin edge should be handled for depth, firmness, and smoothness of flesh covering. The size of the flank roll, the thickness of loin, the covering over the hooks, as well as the smoothness at the tail setting, should be observed. Both sides should be handled, for it frequently happens that a steer will be smooth on one side and rough or rolled on the other. *Before leaving the steer, a handful of hide in the area of the forerib should be gathered up and its mellowness, looseness, and quality noted.*

The flesh covering should be thick, but the steer should not be so fat that the carcass would be considered wasty by a good judge of beef. The fat covering should be even in its depth, and it should have the "touch" or quality which has been described as firm yet springy and mellow. But it should not be so firm as to be hard, nor so mellow that it is soft. A good touch indicates thick muscle, richly marbled with fat, and just the right amount of outside fat. The feature above all else which distinguishes steers of championship caliber is superiority in the amount, evenness, and quality of their flesh. Lack



Shorthorn Angus crossbred steer Bradnaught Blue 2nd champion at Fort Worth 1936 shown by the Texas A and M College

of smoothness or evenness in flesh covering is responsible perhaps more frequently than any other fault for the failure of many good show steers to gain final championship rating

The general run of market steers are deficient in varying degree in condition or the amount of fat carried according to the accepted ideal or judging standard. Such steers are not rough in their covering because they have not reached the stage of fatness which is necessary to develop it. In placing such steers therefore the amount of flesh or fat carried will be the determining factor, so far as flesh is concerned. A tendency to rolls and patchiness becomes apparent only as the steer nears the finished condition. In the case of show steers or the prime grades of market steers on the other hand the important differences in flesh are not so much the amount as it is its smoothness and quality.

The most commonly observed fault in the flesh or condition of show steers which are revealed by handling is a lack of

evenness in the distribution of the fat covering over the important parts of the carcass. They tend to be bare on the shoulder plates, thicker in their covering over the back than on the loin, top of shoulders, or back ribs. The tendency is for thick, fat steers to develop tallowy rolls on the upper back ribs and loin edge, to become rough and wasty about the tailhead, and many develop "ties" in their back. A tie is produced when the skin is held or adheres to the spine, thus preventing the deposit of fat at that point. Small ties are sometimes called "dimples." All of these conditions are objectionable because they contribute nothing toward improving the quality of the meat, which is the purpose of fattening. They are unsightly and mean so much excess outside fat or waste in the carcass.

During the last five minutes of the period the steers should again be lined up broadside, or quartering, with one side—preferably the left—left open for observation and study from a distance, while further handling is permitted on the other.

Outline of points. In judging exercises in which written or oral reasons are taken, it is desirable to simplify further the score-card plan or outline of points, for the reasons which have been discussed in the preceding chapters. For judging fat steers, the following general outline will be found useful as a guide in organizing the reasons, as well as a help in systematizing the observations:

1. Weight	10 per cent
2. Form	45 per cent
3. Flesh or condition	35 per cent
4. General quality	10 per cent

Difference in weight is seldom a factor in placing a ring of steers. One reason for this is that they often are shown in classes according to weight; another is that the medium- and lighter-weight steers generally are preferred by the market. When the different weight champions come together in the show ring to determine the grand championship award, the lightweights or medium-weights often have been given the preference because of this fact. When other things are equal, how-



Shorthorn steer Killearn Lord Rothes, grand champion, Royal Winter Fair, 1938, Toronto, Canada, shown by University of Alberta.

ever, the steer that is heaviest, according to age, should go up, since he is more profitable to produce.

The form or conformation of the steer is a most important factor affecting his value. It is determined fundamentally by his breeding, but is influenced also by his condition or fitness. In discussing the form, the student should consider first the important differences in any of the general features, such as depth, width, low-setness, compactness, balance or symmetry between the two individuals. Next, he should mention any important differences in the lines. Following these, he should indicate any important differences observed in any of the details of form, such as the head, neck, brisket, shoulders, crops, and paunch, always following the plan of starting with the head and working back and down.

In discussing the condition or flesh covering, the important thing is to stress the significant differences, whether in amount of flesh, its evenness, or the touch. One should be specific as to the location of the differences noted and definite in his references, for the differences between the individuals of the respective pairs are never the same.

General quality is of less importance in determining the placing of a ring of fat steers than is either form or condition, nevertheless, it sometimes happens that it is the deciding factor. A reasonable amount of general quality is likely to go with improved breeding and consequently to be found associated with the other desirable features.

SOME USEFUL DESCRIPTIVE TERMS

In giving reasons for placing a ring of livestock or in discussing the merits and faults of an individual animal, the important thing is to be accurate, to omit nothing of importance, and to be clear. To cultivate and develop this ability should be the ambition of every young livestock judge. Before he can progress far in this direction, however, he must acquire the use of or have command of the practical livestock terms descriptive of the ideal and the common faults. In discussing classes of fat steers the terms mentioned below will be found indispensable.

Weight.

Ideal Large, heavy

Common faults Light, small, undersized

Form.

Ideal Deep, wide, low set, blocky, beefy, compact, balanced, symmetrical, straight topline, neat brisket, trim middle, short, wide head, short neck, compact, smooth shoulders, full crops, broad, strong back and loin, smooth hooks, wide, level rump, smooth tail setting, deep, thick, heavy rounds, full, low twist, low flanks, straight legs

Common faults Narrow, shallow bodied, long-coupled, leggy, weak, low back, heavy in the middle, paunchy, coarse, heavy brisket, long, narrow head, long, coarse neck, heavy, coarse shoulders, open on top the shoulders, prominent at the shoulder points, slack or weak in the crops, flat ribbed, narrow, weak back, prominent or rough at the hooks, drooping, narrow, pinched rump, prominent or high at the tail setting, light in

ELEMENTS OF LIVESTOCK JUDGING

the rounds, cut up in the twist, cut up in the flanks, crooked set to the hind legs

Flesh or condition:

Ideal Thick, even, and firm in flesh over all parts, thick and uniform in depth of flesh down the topline, over the shoulder plates and ribs, smooth on upper back rib and loin edge, and at the tail setting, firm and springy to the touch

Common faults Bare, thin, lacks flesh or condition, over done, lacks evenness or uniformity in depth of flesh, bare on the shoulder plates, top of the shoulders, lower and upper back ribs, and loin, rolled, rough, or lumpy on upper back rib and loin edge, ties in the back, patchy, rough, or wasty at the tail setting, too hard or too soft to the touch

General quality:

Ideal Clean, hard, medium sized bone, clean-cut features about the head and neck, loose, mellow, pliable hide of medium thickness, fine, soft, luxuriant coat of hair

Common faults Coarse, heavy bone coarse features about the head, heavy, coarse dewlap, stiff, tight, coarse hide, coarse, harsh, wiry coat of hair

SAMPLE CARD WITH WRITTEN REASONS

The sample set of written reasons for placing a class of fat steers is reproduced on the opposite page as an example of what the student should seek in such an exercise. The placing was correct, and the observations were unusually accurate. Only the important differences between the contrasting individuals of the respective pairs were emphasized, and the conclusions logically and clearly stated.

PLACING WITH ORAL REASONS

Practice and drill in writing reasons develop in the student an appreciation of accuracy in observation and statement, clear expression, and the importance of organization or of following

LIVESTOCK JUDGING CONTEST

Contestant's number: 42 Date: June 20, 1939

Class: Fat Steers

Placing: 1st: 2 2nd: 1 3rd: 3 4th: 4

Number 2 was placed first over Number 1 second.

Number 2 was straighter in his topline, had smoother shoulders, trimmer middle, broader back, and heavier rounds, and was thicker fleshed than 1. Number 1, however, was deeper bodied and lower set than 2.

Number 1 was placed second over Number 3 third.

I will admit that 3 was less paunchy and was smoother in his shoulders than 1; but 1 was more beefy in type, more evenly fleshed, and was less coarse in his head, bone, and hide than 3.

Number 3 was placed third over Number 4 fourth.

This was a close pair. I will concede that 4 was lower set, more level at the rump, and had more quality than 3, but 3 was smoother in his shoulders, neater of brisket, trimmer in the middle, less bare over loin and rib, and was even fleshed than 4.



Steer Number 1



Steer Number 2



Steer Number 3



Steer Number 4

a definite plan or system in writing them. These are important characteristics also of a good set of oral reasons. The practice in writing reasons is highly valuable, therefore, as a preparation for serious training in giving them orally.

Good oral reasons demand all that is required in good written reasons, and something in addition. To be definite, clear, and convincing, they must be well spoken. They should be delivered without hesitation or hurry, with the emphasis of honest conviction, and in a clear, conversational tone. The ability to give an accurate and convincing set of oral reasons is an art, and it requires much effort and practice to develop it. Such training also is of the highest general educational value, and warrants all the time that must be devoted to it.

Below is a set of oral reasons for placing the class of mixed fat steers pictured on pages 110 and 111. The class was placed officially in the same order in which they are shown, 1—2—3—4. The general outline or plan of procedure followed in the organization of these reasons is the same in principle as that used for the other classes of livestock, and is described on page 22.

' My placing of this class of mixed fat steers was 1—2—3—4

I placed Number 1 over Number 2 because he was deeper bodied and lower set in his type, heavier in his rounds, was deeper fleshed especially over his ribs, and was thinner in his hide than 2. I will concede in favor of Number 2, however, that he was more compact in his shoulders, was less wasty in his middle, and handled a bit firmer than 1.

The second pair, 2 and 3, I considered fairly close and will grant that Number 3 was a little more ideal in the quality of his flesh, was neater at his throat and brisket, and showed more general quality than 2. Yet I preferred Number 2 because he was more compact, stronger in his back, was broader at the loin and rump, thicker in the rounds and was a thicker fleshed steer down his top, particularly over the loin than Number 3.

In the last pair, I considered 3 an easy winner over 4.

admitting that 4 was a closer coupled steer with a stronger back and more level rump than 3. But 3 was lower set, was wider and deeper bodied, was heavier in his rounds, and was considerably thicker fleshed all over than Number 4. I faulted 4 especially for his upstanding type, his light hindquarters, and his lack of flesh."

SHOW CLASSIFICATION FOR FAT STEERS

The steer classification which is typical of the majority of state fairs is shown below. Individuals are shown according to their breed, and their age or weight. Only three breed divisions are provided: the Shorthorn, Hereford, and Angus. Polled Shorthorns, grade Shorthorns, and crossbreds sired by Shorthorn bulls show with the purebred Shorthorns. Polled Herefords, grade Herefords, and crossbreds sired by a Hereford bull show with the purebred Herefords. Grade Angus and crossbred Angus sired by an Angus bull show with the purebred Angus. It is generally required that grades and crossbreds be sired by a registered bull. Champions of these three breed divisions show against one another for the grand championship.

1. Steer, spayed or Martin heifer calved between January 1 and April 30 of the preceding year (junior yearling)
2. Steer, spayed or Martin heifer calved between May 1 and August 31 of the preceding year (summer yearling)
3. Steer, spayed or Martin heifer calved on or after September 1 of the preceding year (calf)
4. Champion steer, spayed or Martin heifer
5. Group of three steers, any age, from individual classes above
6. Grand champion steer

The American Royal Livestock Show maintains the same classification as that shown above except that there is added a junior calf class for those dropped on or after January 1 of the year of the show.

The classification made at the International Livestock Exposition is the same in general as the one maintained at the American Royal, except that the classes are stated in terms of weight



The first prize Shorthorn graded herd International 1934 owned and shown by Earl E. Robbins Greensburg Indiana

rather than the age of the steer The weight classes are light 750 to 875 pounds light medium 875 to 1000 pounds medium 1000 to 1150 pounds and heavy 1150 to 1400 pounds

JUDGING THE BEEF BREEDING CLASSES

The change which has occurred in the type of the market steer during the past 10 years which was discussed in the previous section was brought about through the selection by breeders of a short legged more compact earlier maturing type of breeding animal Constant culling of the leggy, wide hipped late maturing kind together with the importance attached to quality and the ability to fatten at the early ages has produced during this time the type exemplified by the best in our major beef breeds today This is the short legged compact type that is easy keeping thick fleshed and possessed of lots of quality

THE IDEAL TYPE

The merit of the finished fat steer is determined principally by his fitness for the block the judge looks at him from the viewpoint of the packer and consumer The function of the cow and bull is more complex, since they must (1) produce the kind of steers which will top the market and be profitable killers when sold (2) reproduce regularly (3) have the vitality which will enable them to maintain themselves in thrifty con

dition on roughage and grass, and (4) produce the type and quality of calves which are capable of rapid growth and quick maturity. In judging the breeding classes, therefore, special consideration should be given to these qualities and characteristics which are important from the standpoint of the producer.

The ideal type of brood cow or bull, of whatever breed, is the one which is consistent with these results. Any standard of selection, for example, which places undue emphasis on pedigree, family name, or show ring performance and ignores the fundamental considerations just named, will fail to produce the type of cattle which will make good in the hands of the

Score Card for the Beef Cow

SCALE OF POINTS	STANDARD OR PERFECT SCORE
1 Size (Large for her age, rugged)	10
2 General form or type (Broad, deep, low set, blocky full heart girth, roomy middle, straight top, side, and bottom lines symmetrical, stylish, legs straight and short)	10
3 Head and horns (Head broad, short, muzzle large refined, femi nine horns fine, short, drooping and incurving)	6
4 Eyes (Large, prominent clear, placid)	1
5 Ears (Fine texture, medium size, well carried)	1
6 Neck (Short clean throated, neat, full at shoulder vein)	2
7 Shoulders (Smooth, compact, broad and rounding at the top, well covered)	6
8 Brisket (Full, trim, neat)	3
9 Heart girth or chest (Deep, wide, full)	6
10 Back and crops (Straight, broad deep, even mellow flesh)	7
11 Loin (Broad, straight, deep, even, mellow flesh)	5
12 Ribs (Well arched, long, deep, even, mellow flesh)	5
13 Flanks (Low, full)	3
14 Hooks (Smooth, level)	2
15 Rump and tailhead (Level, long, broad, tailhead square and smooth)	7
16 Thighs or rounds (Deep, thick, full)	5
17 Twist (Low, full)	3
18 Legs (Short, straight, squarely placed, clean, hard bone of medium size)	6
19 Udder development (Good mammary development udder good size, symmetrically shaped, soft and pliable, teats good size, properly placed)	4
20 Hide and coat (Hide loose, mellow, pliable, coat fine, mossy)	5
21 Disposition (Mild, gentle, active)	3
Total	100

breeder and feeder of market beef. Although it is necessary when selecting pedigreed cattle to consider pedigree, show-ring performance, and the breed-type characteristics, these points are of real value only when they are associated with the more practical points which have to do with performance.

SCORING THE BEEF COW

Some score card practice is desirable before undertaking the more difficult task of placing and writing reasons. The score card on page 115 attempts to describe the utility beef type irrespective of color or other breed-type features. This is a model or ideal cow, secured by combining in one individual the desirable qualities which are common in our major beef breeds.

By making the following substitutions, the score card for the cow may be used for the bull:

- 3. Head and horns (Head broad, short, muzzle large, head strong, burly, masculine; horns short, drooping, and incurving) 6
- 19. Testicles (Normally developed, medium and uniform in size, symmetrically carried)... .. 4

DISCUSSION OF THE SCORE-CARD POINTS

The details of the score card may be appropriately grouped in the following general divisions: (1) general appearance; (2) head, neck, and forequarters; (3) middle; (4) hindquarters; (5) flesh or condition; and (6) general quality. The requirements as given in the score card are discussed briefly, and some of the more important general features are elaborated on in the following paragraphs.

General appearance. Generally speaking, the larger the cow or bull is, the better, so long as type and quality are not sacrificed. The weight varies of course with age and condition, and to a certain extent also according to the breed. Females of the major beef breeds in show condition will usually weigh at the various ages within the limits shown below:

- At twelve months.....800 to 1000 pounds
- At eighteen months..... 1200 to 1350 pounds
- At two years1450 to 1600 pounds
- At three years.....1600 to 1800 pounds
- At four years..... 1800 to 2000 pounds

Bulls in show condition at twelve and eighteen months will weigh about 100 and 150 pounds, respectively, more than heifers, and 200 to 300 pounds more at the older ages. Cows and bulls in good thrifty breeding condition will weigh 200 to 300 pounds less than when in show fix.

The beef cow and bull should be rugged and of good size because, other things being the same, their calves will possess good feeding qualities or the ability to make rapid gains. Extreme size is not desirable, however, for the reason that it is likely to be associated with coarseness and the inability of the calves to fatten at a young age. The mistake should not be made either of overemphasizing refinement and early maturity, for such cattle will soon lose size and substance. Those of medium size for their breed are the ones most likely to combine ample size and substance with the desirable type and quality.

The general form or type of the beef cow and bull when in show condition is the same as that of the fat steer. With respect to a few points, however, there is a difference. The cow is lighter in her shoulders, more roomy of middle, and less smooth at the hooks than the steer. Compared with the steer, the bull is stronger of neck and heavier in the brisket and shoulders. Strength of back, a full heart girth, a roomy middle, and straight legs are of greater importance in cows and bulls than in steers.

They should be beefy in their type, the bull a little more compact and shorter-coupled than the cow, straight-lined, and symmetrical. The most important features of good beef conformation are a broad, strong back and loin; a full heart girth and middle; a wide, level rump; and heavy rounds. This form or type is associated with a strong constitution and feeding and breeding capacity, is consistent with regular breeding habits, and insures the production of the type of steers which will possess the essentials of gaining ability, early maturity, and good killing qualities.

With respect to general form or type, most cows and bulls are a bit leggy, lack spring and depth of rib, are weak in their backs, and lack sufficient development in their rounds. Many



Top left A Shorthorn bull's head showing great strength masculine character and feeding qualities. *Top right* A mature Hereford bull's head that is strong masculine and shows the horn setting and markings desirable in the breed. *Bottom left* The head of Envious Blackcap B which has about everything wanted in an Angus bull head. *Bottom right* A Hereford bull's head that is not so bad but shows nevertheless a lack of width burliness and strength and the masculine character desired in the herd sire.

also are coarse in their shoulders and plain at the rump and tail setting. A level topline and a smooth blending of all the parts in a symmetrical whole are characteristics also which are seen only in the best specimens.

Head, neck, and forequarters In all the beef breeds the head of both the cow and bull should be rather wide between the eyes and relatively short in the face. These features are associated with short legs and the thick made beefy type. In all the breeds the head, neck, and horns of the cow should show refinement, for these reflect feminine character. The head, neck and horns of the bull should be strong, giving evidence of strength and masculinity. Femininity results from the possession

by the cow of those characteristics, not including the sex organs, which show plainly that she is a female. Masculinity is the possession of those general features which suggest maleness. The two sexes differ from one another also in size, disposition, expression, and tone of voice.

It has been the experience of breeders generally that the more pronounced the femininity of the cow or the masculinity of the bull, the more reliable will be the breeding qualities. Cows with "steery" heads and thick necks should be discriminated against, for they often prove shy breeders. Weak-headed bulls likewise should be suspected of lacking prepotent breeding powers. The longer the experience of the breeder and judge, the greater will be the emphasis which he places on heads.

The shoulders of the bull are naturally more strongly developed than those of the cow, but they should not be coarse. They should be broad and rounding on top without being open, and the points of the shoulders should not be prominent. Compactness and smoothness of shoulders should be emphasized in the case of the cow. Both should be wide and full in front and stand wide on short, straight legs, because they are an evidence of constitution and represent essential features of the beef type. The brisket, however, should be neat, especially in the female. Excessive dewlap and throatiness in the cow also detract from her feminine appearance and are objectionable.

Middle. Good middles are of first importance in beef cattle. Their ability to convert roughage and grain into beef is conditional on their constitution and feeding capacity. A roomy middle is desirable in the cow also because of the part she must play in reproduction. The back and loin should be broad and strong because of the weight they must support and also for the reason that the most valuable cuts in the carcass are located there. Most beef animals are slack in the crops, lack sufficient spring and depth of rib, are cut up in the flanks, and weak in the loin and coupling.

Hindquarters. The hindquarters should be well developed because they represent an important part of the beef carcass. The ability of the cow to give birth to her calf without difficulty



Top left The head of Belle O Leveledale practically ideal in form refinement, eye, horn setting, and feminine Shorthorn character. *Top right* The head of Miss Silver Domino 54th reflects femininity Hereford character and good feeding qualities—a very acceptable head and horn setting, but a bit “throaty.” *Bottom left* This head is long and narrow the horn setting is too high and there is a lack of feminine Shorthorn character. *Bottom right* There is a decided lack of quality and refinement of features in this cow’s head and neck. She is coarse, lacks feminine character and is somewhat “throaty.”

or complication also depends on the size of the pelvic arch as shown by the width and length of rump. In show ring judging the width and levelness of the rump and the character of the tail setting are features which always play an important part in the placings made. Perfect rumps and tail settings are rare and



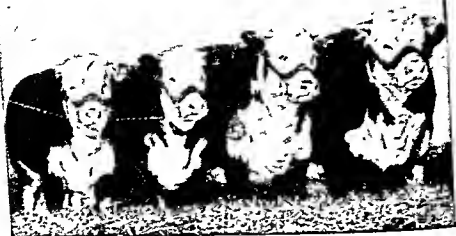
The cow's head on the left is coarse, lacks feminine character, and the horn setting is not so good. The head and horns on the right would look better on a steer than they do on a cow.

are more difficult to breed than are full quarters and good twists.

The most serious and common faults here are a lack of width in the rump, too high or too low at the tail setting, and a lack of thickness and weight in the rounds. The females, especially in the older classes, tend to be prominent at the hooks, pinched and hollow just back of the hooks, rough at the tail setting, and cut up in the twist. High tailheads and narrow, drooping rumps are serious faults and most difficult to eradicate from the herd. Any bull which marks his calves with these defects is a costly investment, regardless of his other merits.

Straight, strong hind legs are more important in the breeding than in the steer classes, and more important in bulls than in cows. Viewed from the side, the hocks often have too much "set" or angle; from the rear they generally are set too close. The amount of bone also is an important matter. Plenty of rugged bone is especially desirable in the bull, and insistence on ultrafinesness in the bone of the cow is not wise. To maintain size and substance in the herd and to produce carcasses full of red meat rather than superfluous fat, ample bone is essential in the breeding stock.

Flesh or condition. By "flesh" is meant lean meat plus fat. It is the term preferred by cattlemen when referring to the



The first prize get-of-sire group at the American Royal and International, 1940, sired by Real Domino 51st and shown by Silver Creek Farms, Fort Worth, Texas.

covering. As with steers, the flesh of the breeding animals in show condition should be thick, even, and firm, yet mellow and springy to the touch. The cow and bull should be thick-fleshed because this is the quality which gives to the steer the ability to fatten and be ready for market at an early age. It also is an evidence of easy keeping quality when the herd is maintained under farm conditions.

Flesh or condition in the cow and bull should be judged by the same method as that suggested in judging steers. Practically the same standard with respect to thickness, evenness, and touch, also, should be observed. Thickness of fat covering is not so important in the breeding classes, however, as smoothness of flesh and the desirable quality. Although show standards necessitate high fitting, an overdone condition should be discriminated against. It endangers the future breeding qualities and is most likely to result in a sacrifice of smoothness and quality of flesh. Especially in the female classes, it usually results in patchiness at the tailhead and softness in the handling quality.

General quality. Good quality in the cow, as in the steer, is indicated by refinement of features about the head and neck; clean, smooth bone; a loose, mellow hide; and a fine, silky coat of hair. Extremely small size and fine bone do not necessarily mean quality, although it is more common to find it in in

dividuals below the average in size than it is in those above the average. Cows and bulls of medium size for their breed are most likely to combine sufficient substance with the desirable type and quality. Because of the difference of sex, the bull should not show the refinement characteristic of the cow, but his hide should be loose and mellow and his hair fine and abundant.

The possession of quality is not only an evidence of good breeding, but it usually is associated with easy feeding traits, early market maturity, and the production of carcasses with fine texture of meat and a minimum of waste.

SIMPLE COMPARISON

The general points which have just been discussed will serve as an appropriate outline in exercises where simple comparisons

Judging Contest Card for Breeding Beef Cattle

Class No -----

Class Name -----

Contestant's No -----

GENERAL POINTS	PLACING				GRADE
	1st	2nd	3rd	4th	
General appearance—30 per cent (Size, general form, symmetry, lines)					
Head, neck, and forequarters—10 per cent (Head, neck, shoulders, brisket, fore- legs)					
Middle—15 per cent (Crops, heart girth, back, loin, ribs, flanks)					
Hindquarters—10 per cent (Hooks, rump, tailhead, rounds, twist, hind legs)					
Flesh or condition—20 per cent (Amount, smoothness, and touch)					
General quality—15 per cent (Bone, hide, hair, general refinement)					
Final placing					
Judge's grade					

of two or more individuals are to be made. When placed on a card similar to the one shown on page 123, the outline will be convenient for use in class exercises or junior judging contests.

PLACING WITH WRITTEN REASONS

Making the observations. The general plan of procedure recommended when judging a ring of fat steers will be appropriate in making the observations for placing the breeding classes. (See page 101.) Due to the greater importance attached to the characters of size, lines, heads, and other breed-type features in cows and bulls than in steers, however, less of the allotted time should be allowed for handling and more given to making observations from a distance.

The particular points to note when observing a class of cows or bulls when presenting a broadside view at a distance of 20 to 30 feet are the general type, top and bottom lines, breed character in the head and neck, and the set of the hind legs. Most individuals are deficient in one or more of these features. Common faults are a lack of sufficient depth and low-setness, weak backs, high tailheads, and plainness about the head and neck.

When the individuals are lined up side by side with spaces between them of about 10 feet, careful observation should be made from the rear and front while walking slowly around the class. Special attention should be given here to the head, horn setting, shoulders, spring of rib, strength of loin, width and levelness of the rump and tail setting, development of the quarters, and the set of the legs. After handling, the individuals should again be lined up to present a side or partial side view, and the students should be required to stand back on one side to facilitate final comparisons.

Outline of points. In the more practical work of placing and giving reasons a more condensed outline will be desirable than the one used for making simple comparisons. The general points which follow also suggest a logical order for the discussion of the essential features.

1. Size.....10 per cent
2. General type or form.....25 per cent

3	Conformation	30 per cent
4	Flesh	20 per cent
5	General quality	15 per cent

A good set of reasons will discuss the significant differences only in any of these general points. If there is no important difference in size, the point should not be mentioned. General type refers to the depth and width of body, low setness, compactness, and balance or symmetry. Under conformation should be considered important differences in the head and neck, horn setting, shoulders, brisket, crops, spring of rib, or strength and width of back, and so on, back and down, including the hind legs, and in that order. It is logical to discuss next the differences in the amount, evenness, or quality of the flesh, finishing with a statement of any significant difference in the quality of the hide, hair, bone, and general features.

SOME USEFUL DESCRIPTIVE TERMS

Size:

Ideal Large, rugged

Common faults Small, light, undersized

General type.

Ideal Deep, wide, low set, blocky, beefy, compact, balanced, symmetrical, straight lines

Common faults Leggy, light bodied, long coupled, narrow, lacks balance or symmetry.

Conformation

Ideal Head and horn setting typical, nice, feminine, breedy head and neck in the cow, strong or masculine head and neck in the bull, shoulders compact, smooth, breast broad, full, well forward, crops strong, full, chest or heart girth full, deep, and wide, back straight, strong, broad, middle roomy, flanks low, loin broad, strong; coupling close, strong, hooks smooth, rump level, broad, long, tail setting neat, broad, quarters strong, deep, thick, full, heavy, twist low, full, legs short, straight.

ELEMENTS OF LIVESTOCK JUDGING

Common faults. Head plain, coarse, long, narrow; lacks femininity in cow, or weak or lacks masculinity in the bull; horn setting plain; shoulders heavy, coarse, open on top, sharp on top, prominent at shoulder points; breast weak, narrow; crops slack, narrow, weak; heart girth or chest weak, pinched, shallow, narrow; back weak, narrow; loin weak, narrow; coupling long; middle shallow, light, weak; flanks cut up; hooks prominent, rough; rump narrow, drooping, pinched, short, steep; tail setting high, prominent, too low; quarters light, weak, narrow; twist light, cut up, legs long, crooked in set of hind legs, knock-kneed.

Flesh:

Ideal. Thick, deep; even, smooth; firm, springy, mellow.

Common faults. Thin, lacks flesh, overdone, soft, hard; rough, uneven, rolled, patchy at tailhead, tie in back.

General quality:

Ideal. Clean-cut features; clean, hard bone; fine, soft hair coat; loose, mellow hide

Common faults. Coarse head and horns, coarse bone; hair coarse, wiry; hide tight, stiff, heavy, coarse.

SAMPLE CARD WITH WRITTEN REASONS

The reasons on the opposite page for placing a class of yearling Hereford heifers received the highest grade of the 123 papers submitted in a junior judging contest. Considering the limited space on the card, the reasons were sufficiently complete, and what is most important, they were accurate, with one minor exception. Also, they were well organized and clearly written. The judges gave the contestant a grade of 19 out of a possible 50. This, with a correct placing, gave him a grade for the class of 99.

PLACING WITH ORAL REASONS

On page 130 is reproduced a set of reasons as they were given orally for placing a class of Shorthorn yearling heifers. These heifers are pictured on pages 128 and 129, and were officially

LIVESTOCK JUDGING CONTEST

Contestant's number: 84 Date: Nov 10, 1939

Class: Yearling Hereford Heifers

Placing: 1st. 1 2nd. 2 3rd: 3 4th: 4

Number 1 was placed first over Number 2 second

Number 1 was lower set, blockier, was straighter in top line, smoother fleshed, and had a mellower hide than 2. Number 2, however, was thicker fleshed and had a nicer Hereford head than 1.

Number 2 was placed second over Number 3 third.

I will admit that 3 was lower set and smoother fleshed than 2, but Number 2 had a nicer head, was wider and more level at the rump, thicker fleshed, and stood straighter on her hind legs than did 3.

Number 3 was placed third over Number 4 fourth.

Number 3 was an easy winner over 4, granting that 4 had a stronger back and more level rump. But 3 was larger, lower set, more compact in shoulders, much smoother fleshed, and showed more quality in hide and bone than 4.



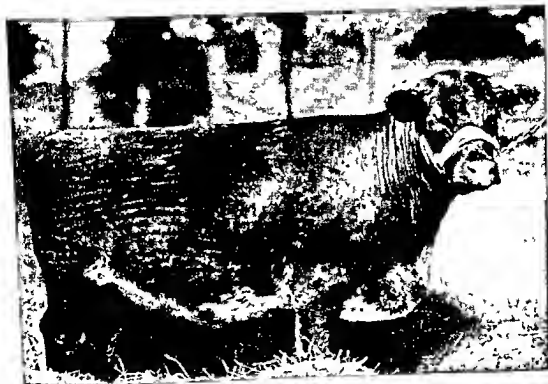
Cow Number 1



Cow Number 2



Cow Number 3



Cow Number 4

placed in the order in which they are shown. Although the two top heifers were fairly close, the individuals, when viewed from this single position, present sufficient differences to the eye alone to make the placing of the class and the reasons fairly obvious. The class was a contest ring and the reasons were given a grade of 40. The student's observations were accurate and his reasons well organized, but his delivery lacked force and expression; he talked too fast, kept his eyes on his card instead of talking direct to the judge, and his manner reflected a lack of confidence in his placing. A better delivery might easily have raised his grade five points.

"My placing on this ring of Shorthorn heifers was 1—2—3—4.

"I placed Number 1 over Number 2 because she was deeper bodied and lower set in her type, and approached more closely the ideal in her lines and balance. She showed more refinement and feminine character in her head and neck, carried down deeper in her rounds and flank, was more mellow in her hide, and had more general quality than 2. I will concede in favor of Number 2, however, that she was smoother fleshed on the upper back rib and loin edge than 1. Both heifers were very thick-fleshed.

"In the second pair, I considered 2, the roan heifer, an easy winner over 3, the red heifer, granting that 3 showed more refinement and Shorthorn character in her head than 2. Yet I placed 2 over 3 because she was deeper and wider bodied, especially fuller in her crops and heart girth, heavier in her rounds, and was thicker and more smoothly fleshed all over than Number 3.

"In the last pair, I placed 3 over 4, and considered it easy Number 3 was lower set and more symmetrical in her proportions; she had a more attractive head, more spread to her body, was smoother at the hooks, broader at the rump, heavier in her rounds, was less cut up in her twist and flanks, and stood straighter on her hind legs than 4. Also, she was mellow in her hide and much thicker fleshed

than 4. Number 4 was long in the neck, pinched at the rump, light in her rounds, and lacked general beefiness."

SHOW CLASSIFICATION FOR BREEDING CLASSES

The classification shown below is maintained for each of the respective beef breeds at the large state and national shows of the country.

1. Bull, 2 years old, calved between January 1 and April 30
2. Bull, senior yearlings, calved between May 1 and December 31
3. Bull, junior yearlings, calved between January 1 and April 30
4. Bull, summer yearlings, calved between May 1 and August 31
5. Bull calf, senior, calved between September 1 and December 31 of the preceding year
6. Senior champion bull (classes 1 and 2)
7. Junior champion bull (classes 3, 4, and 5)
8. Grand champion bull
9. Three bulls, any age, owned by exhibitor
10. Two bulls, bred and owned by exhibitor
11. Cow, 2 years old, calved between January 1 and April 30
12. Heifer, senior yearling, calved between May 1 and December 31
13. Heifer, junior yearling, calved between January 1 and April 30
14. Heifer, summer yearling, calved between May 1 and August 31
15. Heifer calf, senior, calved between September 1 and December 31 of the preceding year
16. Senior champion female (classes 11 and 12)
17. Junior champion female (classes 13, 14, and 15)
18. Grand champion female
19. Get of sire. Four animals, any age, both sexes to be represented, owned by exhibitor
20. Graded herd. One bull, two years old or senior yearling, one two-year-old cow, one senior yearling heifer, one junior or summer-yearling heifer, one heifer calf

- 21 Pair of yearlings, bred and owned by exhibitor, consisting of one junior or summer yearling bull and one junior or summer yearling heifer
- 22 Pair of calves, bred and owned by exhibitor, consisting of one bull calf, calved after September 1 of the preceding year, and one heifer calf from same age class
- 23 Pair of females, any age, from the above classes, bred and owned by exhibitor
- 24 Bull and female, any age, bred and owned by exhibitor
- 25 Produce of cow Two animals, any age, either sex, produce of one dam

The sanitary regulations governing eligibility are the same as those affecting the dairy breeds (See page 89)

The following classes for the carload division at the International are maintained for each of the Shorthorns Herefords, and Angus breeds and their respective grades or crossbreds

- 1 Carload of 15 head grain fed steers or heifers under 1050 pounds
- 2 Carload of 15 head grain fed steers or heifers 1050 and under 1150 pounds
- 3 Carload of 15 head grain fed steers or heifers 1150 pounds and over
- 4 Champion carload
- 5 Grand champion carload

BREEDS OF BEEF CATTLE

There are three major breeds of beef cattle in this country—the Shorthorn, Hereford and Angus Large shows provide a separate classification for the Polled Shorthorn Breeders of Polled Hereford generally elect to show with and in competition with the horned Herefords The prominent and distinguishing characteristics of these breeds are discussed briefly below

SHORTHORN

This cosmopolitan breed of beef cattle had its origin in Northeastern England Its great popularity in America has



The great Shorthorn bull Raven Masterpiece, bred by T. Dorsey Jones, Shelbyville, Indiana. He was grand champion at the International, 1934; he also sired the first prize get-of-sire groups at the International in 1935 and 1936, the grand champion female in 1935, and the grand champion bull in 1936. Shown by Earl E. Robbins, Greensburg, Indiana.

been due to its unequalled adaptability to general farm conditions. It is noted for its mild disposition, good feeding and beef-producing qualities, and its ability to produce a generous milk flow. In type the Shorthorn is not so low-set and compact as the Angus or Hereford, although the modern show specimens approach them closely in this respect. The colors are red, roan, white, and red with white spotting or white "stockings." Red and roan are the popular and predominant colors and are about equally represented in the breed. White is less popular, while red individuals with large white spots or "splotchy" are looked upon with some disfavor, especially for herd sires. The muzzle should be a buff or flesh color; dark, smutty, smoky muzzles are objectionable, especially in the bull. The Shorthorn is one of the largest of the beef breeds. Mature bulls in show condition will usually exceed 2000 pounds in weight, and mature cows should weigh 1700 pounds and over.

Polled Shorthorns are Shorthorns that are naturally hornless.

In color, type, and utility they are the same as the parent breed and should be judged according to the same standard. So far as breeding is concerned, they are of pure Shorthorn origin and are recorded in the American Shorthorn Herd Book. Occasionally there are Polled Shorthorns with small, loose horn growths attached only to the skin. These are called "scurs" or "buttons." All scurred individuals are considered Polled. When the horn growth is firmly attached to the skull, as is the case with stubs of horn, however, the individual is not considered Polled, and is not eligible for record as a Polled individual. Should individuals with stubs of horn be shown in Polled classes, it is the obvious duty of the judge to disqualify them. Individuals with scurs, on the other hand, should not be discriminated against in the show ring.

HEREFORD

This great breed of white faced cattle received its early development in Herefordshire County, England. Its popularity in America is shown by its pre eminence on the ranges of the West and Southwest and the place the steers have earned in the feed lots of the Corn Belt. The breed is especially noted for its constitution, vigor, hardiness, grazing qualities and ability to fatten quickly. They are very smooth in the shoulders and extra good in the spring of forelegs. They are somewhat more compact, more rugged of bone, and thicker of hide than the Shorthorn, the carcass, however, lacks the smoothness of fat covering and quality of the Angus. Herefords have a striking and uniform color. The body should be a rich red, with head, top of neck, throat, brisket, and much of the undersurface of the body white. The white should not extend back on the topline beyond the top of the shoulders. 'Line backed' bulls, especially, are not popular. Freckled, speckled, or dark muzzles are also objectionable, especially in the bull. The horn setting is the same in the Hereford and Shorthorn. They should come out at right angles to the head and turn down and in with an even curvature. Herefords are about as heavy as Shorthorns, mature bulls in show condition weighing 2200 pounds or more, and cows, 1700 pounds and over.



Belle O Leveledale, selected by experts as the model Shorthorn cow. In type, lines, and breed character she defies criticism. She is a producer of champions and her showyard record seldom has been equaled. Owned by Mathers Bros, Mason City, Illinois.

Except for the absence of horns, Polled Herefords are identical with the Hereford and should be judged according to the same general standards. To be eligible for record in the American Polled Hereford Record, individuals must be naturally polled, and registered in the American Hereford Record. Ordinary "scurs" or "buttons" attached only to the skin do not disqualify for registration, but horn growth which is fastened firmly to the skull does disqualify. It is the policy of the Polled Association to favor the showing of their cattle along with horned individuals and in competition with them, rather than to set up separate classifications at the different fairs.

ANGUS

This breed of black polled cattle originated in Scotland and has become famous throughout the world wherever quality beef is appreciated. Their carcasses are unequaled in the marbling of the fat with the lean, evenness and firmness of the outside fat covering, the amount and quality of the muscle, and



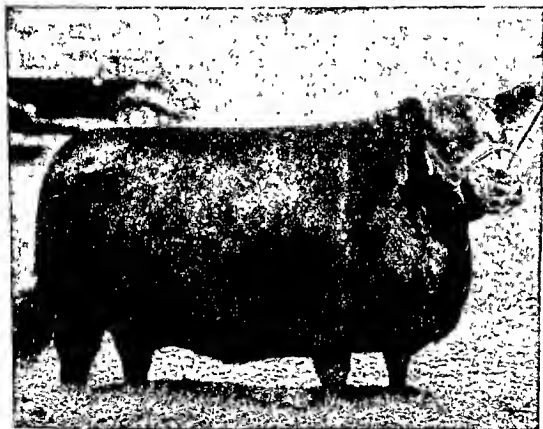
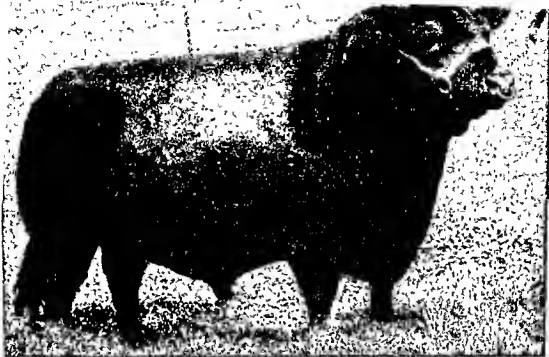
At the top Oakwood Royal King grand champion Polled Shorthorn bull International, 1930 At the bottom Evergreen Roan Lady Polled Short horn senior yearling heifer first prize International 1936 Owned and showed by C. B. Teegardin & Son Ashville Ohio



At the top Publican Domino Jr by Publican Domino winner of twelve championships from 1930 to 1934 owned by Wheelock Hereford Farm Corsicana Texas At the bottom Miss Silver grand champion Hereford female, International 1939 shown by Silver Creek Farms, Fort Worth, Texas



At the top, Real Plato Domino, reserve champion bull National Polled Hereford Show, 1939, owned by Leshe Brannan, Timken, Kansas. At the bottom, champion Polled Hereford female, 1939, owned by Orvil Kuhlmann, North Platte, Nebraska.



At the top, Aberdeen Angus bull Black Prince of Sunbeam, International grand champion, 1938, and junior champion, International, 1936, shown and owned by S. C. Fullerton, Miami, Oklahoma. At the bottom, Blackcap Tolan 35th, the three-times International grand champion Angus cow, bred by J. Garrett Tolan, Pleasant Plains, Illinois.

for a minimum amount of cutting waste and bone. They have more quality and style, are shorter of leg, and more compact and uniform in type than the other major breeds. They lack the size, however, of the other breeds and do not fatten as quickly as the Hereford. Many of the specimens are flat in their forerib and a bit coarse in the shoulders. Their active temperament sometimes gives the impression of nervousness. The ability of the cows to milk well has always been one of their valuable qualities. The poll should be rather sharp. Any small horn growth not fastened to the skull, such as "scurs" or "buttons," does not disqualify for registration or show-ring honors. The color should be black, but a little white on the underline back of the navel, although objectionable, is permitted. A white scrotum, however, is very objectionable. Mature bulls in show condition should weigh 2000 pounds or more, and mature cows, 1600 pounds or over.

CHAPTER 5

Sheep

ACCORDING TO their type and function, sheep are divided into two general classes, mutton and fine-wool. The mutton type possesses the characteristics which adapt it to the economical production of meat. The fine-wool type, on the other hand, is bred primarily for the production of a heavy clip of very fine quality wool, with meat as a secondary consideration.

THE TYPES OF SHEEP

As a result of this difference in function the two types differ widely in appearance. The mutton type has the form and other characteristics of the typical meat-producing animal. It is broad in body, low-set, compact, straight-lined, full in the twist, rather fleshy, and with a lymphatic temperament. The fine-wool type is light-bodied, broken in the topline, sharp at the shoulder tops, steep in the rump, light in the leg, thin in flesh, and rather active in temperament. It is characteristic of this type also for the skin to be more or less wrinkled and carried in folds. The fine-wool fleece is shorter of staple, finer in quality, more compact, and carries a great deal more grease or yolk than that produced by the mutton type.

With the exception of certain areas in Ohio and southern Michigan, most farm flocks in the Corn Belt and the East are of the mutton type. This is due to the increase in the demand for mutton as compared with wool, and the adaptation of this type to conditions where small flocks are maintained. In the

semiarid regions of the West and Southwest, on the other hand, fine wool or Merino blood largely prevails because this type possesses to a high degree the close flocking instinct, activity, hardness, and a tight fleece—qualities which are essential in a range sheep.

The classification of the common breeds of sheep found in the United States according to type is as follows

Mutton type	{	Medium wool .	{	Hampshire
				Shropshire
				Oxford
				Southdown
				Dorset
				Cheviot
				Suffolk
				Corriedale
		Long wool . . .	{	Cotswold
				Lincoln
				Romney
Wool type .		Fine wool .	{	American Merino
				Delaine Merino
				Rambouillet

JUDGING MUTTON SHEEP

PROCEDURE IN MAKING OBSERVATIONS

Inspection at a distance. The first step in judging sheep whether a fat or breeding class, is observation from a distance of 6 to 8 feet. Each individual should be viewed critically from the side, rear, and front.

From the side, the depth of body, low setness, compactness, strength of back and loin, set of legs, length of neck, the carriage, and the head and ear features should be noted. The faults most commonly observed from this position are weak backs, long necks and legs, a lack of depth and capacity of middle, and crooked hind legs.

From behind, one should observe especially the width of the body, the compactness, the width of rump, development of the leg of mutton and twist, and the position or set of the hind legs. Most sheep are inclined to be flat ribbed, weak in the loin, pinched and too steep at the rump, light in the leg, and cut up in the twist.

Standing in front of the sheep, we should note the general width and compactness of the body—especially the depth and fullness of the chest and brisket—the width between the legs, the head and ear features, and the straightness of the forelegs. The defects which are most common and easy to observe from this position are the evidences of a weak constitution and a failure of the head and ear features in the breeding classes to conform to the requirements of the various standards. Most sheep are not as full in the heart girth as desired, are narrow at the floor of the chest, light and sharp at the brisket, and many are knock kneed.

Handling Examination with the hands plays a larger part in sheep judging than is the case with the other classes of livestock. This is so because by skillful blocking the experienced shepherd can make a light bodied, badly shaped sheep look like a prize winner, and also because the depth and firmness of the flesh covering can be determined only by handling. There is the necessity also in the case of the breeding classes of making a systematic close up inspection of the fleece and skin. Beginners should realize that skill in handling—the necessary touch—can be acquired only after long practice and close concentration and study.

The observations are more likely to be complete and accurate if a definite system is followed in handling. Although no two judges use exactly the same one, all good judges use some plan.

After the general inspection has been completed, by walking slowly around the individual, the judge approaches the sheep from the rear and proceeds to handle. First, with the hand open and fingers together and extended, he handles the topline from the dock to the neck, at points separated by no more than four inches. The hand should be laid flat, and just sufficient

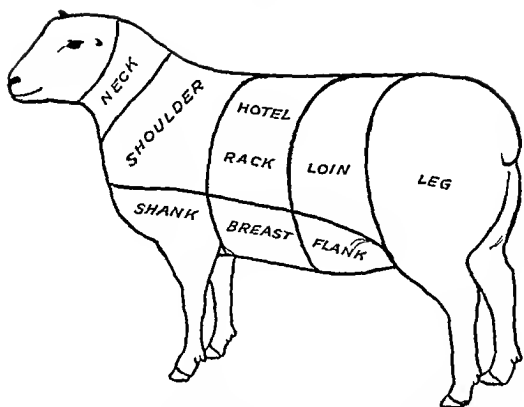
pressure should be applied with the fingers, together with a lateral, or forward and back motion, to reveal the depth and character of the flesh covering. Along with these observations note will be taken also of the strength of back and levelness of the topline. Most sheep will be found to be weak in the back and loin, too steep at the rump, and low in front or behind the shoulders.

Next the judge notes the top of the shoulders. They should be broad yet compact and smooth. Some are high and sharp while others are open. Then with both hands he grasps the sheep at the base of the neck to determine its strength and fullness. He may, with his open left hand, then determine the prominence and width of the brisket and the depth and width of the chest floor between the forelegs. With both hands he notes the prominence and covering of the shoulder sides and points, the spring of rib and fullness of the heart girth, the amount and firmness of flesh in the regions of the lower forerib and sides, the width and thickness of the loin, strength of coupling, the smoothness and covering of the hips, the length and width of the rump, and the amount and firmness of fat about the dock. Then in a squatting position and with the sheep standing squarely on the hind legs, the judge notes the depth of the twist and the thickness and development of the leg of mutton. Finally he handles again the topline.

The examination of the fleece is the next step in the case of breeding classes. Good light is essential for this. The fleece should be opened in a long straight part at three places: on the side of the shoulder, on the ribs, and down the thighs. The coarsest wool is found about the lower thighs or britchen, and the finest at the shoulders. When judging purebreds of the breeding classes, the color and distribution of the wool over the face and head, in the region of the horn pits, and on the ears, the color and extension of the wool on the legs, and the covering of the undersurfaces of the body must also be noted.

SCORING THE FAT WETHER

As with the other classes of meat producing animals, it is advisable in outlining the work in sheep judging to start with



Location of the standard wholesale lamb cuts. Show lambs will dress about 60 per cent of carcass to live weight, prime market lambs usually dress 50 to 55 per cent. The leg, loin, and hotel rack constitute the most important parts of the carcass, representing together about 65 per cent of the weight and 83 per cent of the value.

the finished market type. Not only are the fat classes more simple than the breeding classes and easier to judge, but a knowledge of market requirements as shown in the ideal fat wether is important in helping better to understand the essentials of the breeding types. And scoring should be practiced first, before undertaking the more advanced types of exercises involving comparisons with reasons.

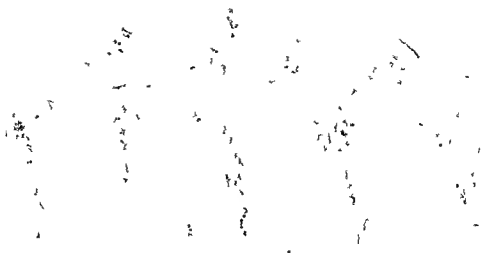
DISCUSSION OF THE SCORE-CARD POINTS

Weight. The most popular weight for the general run of market lambs ranges from 70 to 85 pounds. In the case of hot-house or Easter lambs the demand is for a weight of 35 to 65 pounds. From the standpoint of the butcher or the consumer large weight for age is not important. Other things being

Score Card for the Fat Wether¹

SCALE OF POINTS	STANDARD OR PERFECT SCORE
GENERAL APPEARANCE—37 PER CENT	
1 Weight (Score according to age)	
2 Form (Straight topline and underline, deep, broad, low-set, compact, symmetrical)	12
3 Condition (Deep, even covering of firm flesh, points indicating finish are thick dock, thick covering over loin, back ribs, and shoulders, fullness between the shoulders and brisket)	15
4 Quality (Hair fine bone fine but strong, features refined but not delicate, pelt light)	10
HEAD AND NECK—9 PER CENT	
5 Head (Features clean-cut mouth large, lips thin nostrils large, eyes large, clear, face short, forehead broad ears alert, not coarse, considerable width between the ears)	5
6 Neck (Short, thick, full at junction with shoulder)	4
FOREQUARTERS—10 PER CENT	
7 Shoulders (Covered with flesh, compact on top, smoothly joined with neck and body)	8
8 Brisket (Rounding in outline and well extended)	1
9 Legs (Straight, short, wide apart, strong full forearm, bone smooth)	1
BODY—18 PER CENT	
10 Chest (Wide, deep, full)	2
11 Ribs (Well sprung, long, close, thickly covered)	4
12 Back (Broad, straight, thickly and evenly covered)	6
13 Loin (Thick, broad, well covered)	6
HINDQUARTERS—17 PER CENT	
14 Hips (Far apart, level, smooth)	1
15 Rump (Long, level, wide to dock, thick at dock)	5
16 Thighs (Full, deep, wide)	5
17 Twist (Plump, deep, firm)	5
18 Legs (Straight, short, strong, bone smooth)	1
WOOL—9 PER CENT	
19 Quantity (Long, dense, even in density and length)	3
20 Quality (Crump distinct and even throughout the fleece)	3
21 Condition (Slight amount of yolk, foreign material not excessive)	3
Total	100

¹ Walter C. Coffey *Productive Sheep Husbandry* (Chicago J B Lippincott Company)



A winning group of champion show lambs, shown at the International by Purdue University. Note the full twists, broad backs; the low set, compact type; and the appearance of finish, firmness, and quality—characteristics which are essential in a show sheep

equal, however, the greater the ability of a lamb to make rapid gains, the more profitable he is from the standpoint of the breeder or feeder. As judged in the show ring, weight for age, or size for the class, is considered a matter of some importance by most judges. If a lamb has made a gain from birth of one-half pound daily for the smaller breeds, or 0.6 pound daily for the larger breeds, he should be regarded as about ideal in weight. Yearling wethers should gain one-third to 0.4 pound daily from birth, depending upon the breed.

Form. The general form is briefly but clearly described in the score card. However, the importance of certain details should be emphasized. Particularly the fat lamb should be free from any paunchiness, and he should be very neat and smoothly turned about the shoulders and brisket. His back, loin, and rump should be broad, and there should be great weight in the leg of mutton. From either the market or show-ring point of view, the development of the leg of mutton, back, and loin is a point of the greatest importance.

This particular type or form is regarded as ideal by the butcher because it means a high percentage of dressed to live weight and the maximum development in the region of the high priced cuts. From the feeder's standpoint, this type makes rapid gains in the feed yard, matures or fattens at an early age and weight, and suits the butcher when marketed.

Condition The finished condition in the fat lamb, especially if the fat covering is firm and smooth, insures for the butcher and consumer greater palatability of the meat, better keeping and freezing qualities and a higher dressing percentage. The extreme condition required in the show wether is justified in the eyes of the breeder and feeder on the ground that it demonstrates extraordinary ability in two of the essentials of mutton production, namely good feeding quality and the ability to take on fat and keep it firm and smooth.

Quality Quality has much to do with the way a fat lamb sells on the market. It is perhaps more highly regarded in lambs than in any other market animal. Refinement and clean cut features about the head and legs indicate to the butcher a minimum of offal and cheap meat when the carcass is dressed, and meat of fine grain and quality. When wool brings a good price and when the pelt is sold by the pound, heavy pelts are not a handicap but a merit.

Head and neck. The head should be broad and the neck short because these are associated with the broad, low set, blocky type. In addition to this point the butcher wants refined, clean-cut features about the head because they indicate less offal and good quality in the carcass.

Forequarters The butcher objects seriously to heavy, coarse shoulders and brisket because they represent the cheaper parts of the carcass. What he desires is a neat brisket and smooth, well-covered shoulders which join smoothly with the neck, back and foreribs. A broad forearm indicates a muscular carcass while clean bone means quality in the meat.

Body As indicated by the number of points allowed it on the score card, the body includes the most important parts of the fat sheep. Lamb or mutton chops are taken from the loin and back and represent the most valuable retail cuts in the



International grand champion wether, 1939, a purebred Southdown, bred and shown by Pennsylvania State College

carcass. The broader the back and loin are and the thicker they are covered with smooth, firm flesh, the greater will be the proportion of these high-priced cuts. From the point of view of the feeder or breeder good spring of rib and full heart girth are desirable, also, because they signify feeding capacity and constitution.

Hindquarters. The rump, thighs, and twist together represent the wholesale market cut known as the leg, or leg of mutton. This cut represents around 30 per cent of the weight of the entire carcass and sells at a price next to the loin and short rack. The importance of a broad, square rump; deep, thick thighs; and a full, plump twist is therefore obvious. Perhaps the most common faults are a pinched, drooping rump; light leg; and, in very fat specimens, a tendency for the fat to collect in a soft, flabby bunch about the tailhead or dock.

Wool. The fleece of the mutton sheep should be at least two and one-half inches long when a year's growth is represented; the fiber should be sound, well crimped, soft, and fine, and it should be fairly compact, bright, and clean. What is wanted especially is a fleece with both good length of staple and fineness of crimp. Usually when the wool is fine and compact,

the staple is short; and when the staple is of good length, it is inclined to be coarse and open. Breed standards vary considerably in the emphasis placed upon the length and fineness of the fleece.

Although the pelt represents to the butcher an important part of the total value of the fat lamb or wether, the wool usually is not considered when judging fat sheep in the show ring. In scoring fat sheep, however, the beginner should consider the wool because of its intrinsic value and for the good he may derive from the practice of its examination.

COMPARATIVE JUDGING OF FAT WETHERS

SIMPLE COMPARISON

Scoring should be followed by a few exercises involving simple comparison of two individuals in which only the general

Judging Contest Card for Fat Wethers

Class No

Class Name.....

Contestant's No

GENERAL POINTS	PLACING				GRADE
	1st	2nd	3rd	4th	
General appearance—15 per cent (Weight, general form, symmetry)					
Forequarters—10 per cent (Head, neck, shoulders, brisket)					
Middle—15 per cent (Back, loin, ribs, paunch)					
Hindquarters—15 per cent (Hips, rump, dock, twist, leg of mutton)					
Covering—35 per cent (Amount, evenness, and firmness of flesh)					
Quality—10 per cent (Refinement of features of head and bone)					
Final placing					
Judge's grade...					



The 1940 International grand champion wether, a purebred Shropshire, shown by Iroquois Farms, Cooperstown, New York.

points of the score card are considered. The division of points should be complete without involving details. When printed on a card of the type used in many junior judging contests, the outline of points for the fat wether would be as shown on the opposite page. The wether selected for these exercises should present a reasonable amount of contrast and their correct placing should be fairly obvious.

PLACING WITH WRITTEN REASONS

The ability to give clear, convincing reasons for the rating of a given class, or to describe accurately the strong and weak points of an individual animal, is a most valuable asset to any judge or breeder. Observation shows that the best reasons usually are brief and to the point, and the emphasis always laid on the significant differences only between the individuals of the respective pairs.

Outline of points. The following general outline of points of the fat lamb will be found helpful as a guide in making the

observations as well as in the organization of the reasons in exercises where reasons are to be given

1 Weight	10 per cent
2 Form	40 per cent
3 Covering	35 per cent
4 Quality	15 per cent

SOME USEFUL DESCRIPTIVE TERMS

Good reasons are not possible without command of the stock man's terms. Lack of familiarity with the standard words is a sure sign of the novice. Below are given the terms used to describe ideal as well as those useful in designating common faults in, fat lambs or wethers.

Weight

Ideal Large growthy

Common faults Light, small, undersized

Form

Ideal Wide, deep, low set, blocky compact symmetrical straight lined, level topline trim middle neat brisket broad rump, heavy leg full twist dressy

Common faults Narrow light bodied leggy, shallow bodied, weak or low in the back paunchy, light leg cut up in the twist, coarse, open shoulders, long neck

Covering

Ideal Thick, even firm covering all over

Common faults Bare, raw, soft, flabby, gobby, wasty at the dock and foreflank, overdone, too fat, rough tallowy

Quality

Ideal Clean-cut, refined features about head and legs

Common faults Coarse, heavy boned, lacks quality

SAMPLE CARD WITH WRITTEN REASONS

The third type of judging is placing with written reasons. This logically should follow exercises involving simple com



Grand champion wether International 1937 a purebred Southdown bred and shown by the University of Illinois

parison For the first exercise of this type, lambs should be selected which are easy to place, and with the number limited to three Later, the student may be given stiffer classes of four individuals The formal set of written reasons which is reproduced on page 156 illustrates the general form and other features which are desirable in such an exercise This ring of fat lambs was placed correctly and the reasons justifying it were given 47, which resulted in the high total grade of 97

PLACING WITH ORAL REASONS

Most students who have developed the ability to write a good set of reasons can, with properly guided effort, acquire in a relatively short time the ability to give a clear and convincing set of oral reasons To do this there is required on the part of the student, however, attention to his speech, along with a growing appreciation of the ideal for the respective animal types, the knack of appraising quickly important differences between the individuals of a class, and improved judg-

LIVESTOCK JUDGING CONTEST

Contestant's number: 18 Date: June 20, 1910

Class: Fat Lambs

Placing: 1st: 2 2nd: 1 3rd: 1 4th: 3

Number 2 was placed first over Number 1 second.

Number 2 was lower set, more compact, much heavier in the leg of mutton, and thicker covered than Number 1. Number 4, however, was trimmer of middle and showed more quality than 2.

Number 4 was placed second over Number 1 third.

Although 1 was more compact on top of the shoulders and had a stronger back than 4, Number 4 was wider and deeper bodied, much fuller in the twist, trimmer in the middle, and less bare than 1.

Number 1 was placed third over Number 3 fourth.

Both these lambs lacked finish. 1 preferred 1 over 3. however, because of greater width of back and loin, broader rump, and thicker leg. Number 3 was very narrow and light bodied.

ment or ability to weigh and balance the merits and faults of one against the merits and faults of another.

To be good, oral reasons must be based on accurate observations, and on good judgment in evaluating observations. If properly organized and spoken, reasons so supported will be good.

To illustrate a good method of organizing a set of reasons for placing a ring of fat lambs, there is reproduced below the reasons as they were delivered orally for placing the lambs shown on pages 158 and 159. The official rating of the class was 1—2—3—4, the same order as shown.

"My placing of this class of crossbred fat lambs was 1—2—3—4.

"I placed 1 over 2 because he was more compact and blocky in his type, shorter in his neck, broader and stronger in his back and loin, deeper in his twist, and in handling qualities was thicker covered down his top and firmer at the dock and foreflank than 2. Also, Number 1 was a lamb of more quality. Number 2, however, was trimmer in the middle than Number 1.

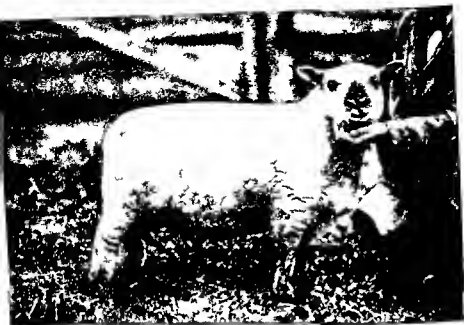
"I considered the second pair, 2 and 3, fairly close and will admit in favor of 3 that he was smoother in his shoulders, stronger in his back, and was thicker covered on the upper back ribs than 2; but I preferred 2 because he was better balanced, he had more spring of rib, he was broader at the rump and dock, was heavier in his leg, trimmer in the middle, and was firmer and more evenly covered than Number 3.

"In the last pair, 3 was a fairly easy winner over 4, although I will grant that 4 was less soft at the dock than 3. Number 3, however, was less wasty in the middle, fuller in the twist and leg of mutton, and was a much thicker covered lamb than Number 4. I faulted 4 especially for his cut-up twist, light leg, and bareness down the topline.

"These are my reasons for placing the class 1—2—3—4."

SHOW CLASSIFICATION FOR FAT WETHERS

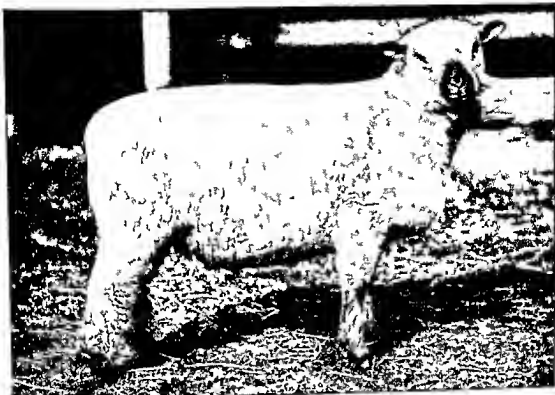
The classification which follows is typical of those maintained at the large fat stock shows and state fairs. Only one age-class



Lamb Number 1



Lamb Number 2



Lamb Number 3



Lamb Number 4

is now provided, namely, lambs. To qualify as a lamb the individual must have been dropped on or after January 1 of the year of the show.

1. Wether lamb
2. Pen of 3 wether lambs
3. Grand champion wether lamb
4. Reserve grand champion wether lamb
5. Grand champion pen of 3 wether lambs
6. Reserve grand champion pen of 3 wether lambs

The above classification is maintained for each of the prominent mutton breeds, and for grades and crossbreeds. At a few fairs the lambs of the larger breeds are divided into two classes, heavy and light, those above 90 pounds and those 90 pounds and below.

In the carload division at the International, the classification is as follows:

1. Carload, native lambs, bred east of 98° longitude, under 85 pounds
2. Carload, native lambs, bred east of 98° longitude, 85 pounds and over
3. Carload, range lambs, bred and dropped west of 98° longitude, under 90 pounds
4. Carload, range lambs, bred and dropped west of 98° longitude, 90 pounds and over
5. Carload of lambs from range ewes
6. Grand champion carload

JUDGING MUTTON BREEDING CLASSES

The finished fat lamb is judged from the standpoint of the butcher or packer and his merit determined by his fitness for the block. The ewe and ram, however, must (1) produce the type of lamb that will top the market, (2) be fertile and reproduce regularly, (3) produce lambs capable of rapid growth and early maturity, (4) possess those qualities of hardness and grazing ability which will enable the flock to function success-



Grand champion carload lambs, International, 1935 (average weight, 80 pounds), shown by C. J. Brodie, Stouffville, Ontario, Canada. Here is shown near perfection in market lambs.

fully on grass and roughage alone, and (5) produce annually a wool clip which will pay the cost of their maintenance. In judging the breeding classes, consequently, the viewpoint of the judge should be that of the breeder or producer.

ESSENTIALS OF THE MUTTON TYPE

The type of breeding ewe, or ram, of any of the mutton breeds should be consistent with these practical results. Differences between the breeds belonging to the mutton type are due to variations in size, type of fleece, color markings, and other breed-type features about the head and ear, rather than to any large differences in those characters which affect the practical considerations just enumerated. When judging purebreds of the breeding classes, these breed type characters must be considered, but always they should be given the place secondary in importance to good conformation, constitution, fertility, feeding qualities, flesh, and fleece yields.

SCORING THE MUTTON EWE

The score-card description of the mature mutton ewe given on page 162 attempts to describe in detail the ideal. This model ewe, or so-called ideal, is a composite of all that is best in the mutton breeds, disregarding breed type characters.

ELEMENTS OF LIVESTOCK JUDGING

Score Card for the Mutton Ewe or Ram

SCALE OF POINTS	STANDARD OR PERFECT SCORE
1 Size (Score according to age and breed)	10
2 Form or type (Deep, wide, low set, uniform in width and depth symmetrical)	15
3 Condition (Deep even covering of firm flesh)	10
4 Quality (Clean, hard bone, refined features about head and ears, hair fine)	10
5 Head (Broad and fairly short, feminine, refined features, eyes large and clear, mouth and nostrils large, ears not coarse)	4
6 Neck (Short, well carried, clean at the throat, shoulder vein full) (The neck of the ram should be especially thick and strong)	2
7 Shoulders (Compact and smooth, well covered with flesh joined smoothly to neck and body)	4
8 Brisket (Extended well forward, broad, deep, and full)	2
9 Forelegs (Short, wide apart, straight, pasterns strong, feet sound bone clean)	1
10 Chest or heart girth (Deep, wide, full)	4
11 Back (Straight, strong broad, deep, even covering of firm flesh)	5
12 Loin (Broad, strong, deep, even covering of firm flesh)	4
13 Middle (Roomy, ribs well sprung and deep flanks low and full)	4
14 Rump (Long, level, wide, square at the dock even, firm flesh hips well covered)	3
15 Leg of mutton (Thighs deep, thick, and firm twist low and full)	5
16 Hind legs (Short, set wide apart, straight, hocks and pasterns strong, feet sound bone clean)	2
17 Fleece and skin (Fleece long dense even in length and fineness crimp distinct and even clean, bright, free from dark fibers excessive yolk, and foreign matter skin pink, not dark, blue, or spotted)	15
Total	100

DISCUSSION OF THE SCORE CARD POINTS

The more important general features of the score card will now be discussed briefly with the view to a better understanding of their significance, under the following headings (1) general appearance, (2) head, neck, and forequarters, (3) middle, (4) hindquarters, (5) flesh or covering, and (6) fleece.

General appearance. Under this heading are considered the size and general form or type. The different breeds of mutton sheep vary considerably in size. Rams of the larger breeds, like the Lincoln, Cotswold, Oxford, and Hampshire, when in good condition, will average 250 pounds or more in

weight, and the ewes 200 pounds. Southdown and Cheviot rams will weigh about 185 pounds and the ewes 140 pounds. The Shropshire is intermediate in size, weighing in the case of the ram 200 to 225 pounds, and for the ewe 150 to 160 pounds. Show condition will mean an increase in weight of 25 to 75 pounds.

Sheep reach maturity when about two years of age. In a normal development, especially when some grain is fed, the rate of gain during the first year will be faster than during the second. Approximately three fifths of the growth is made during the first year and two fifths during the second.

Reasonable large size is desired in the ram and ewe because it insures ruggedness and gaining capacity in their lambs. Extreme size, however, is not wanted because too often it is associated with a leggy type and lack of quality. The smaller breeds, on the other hand, although possessing the low set, compact type, and produce lambs of market topping quality, are often criticized because their lambs do not grow as rapidly as those of the larger breeds. As a rule, sizes which are medium for the respective breeds should be preferred.

In the matter of general conformation, the standards of all the mutton breeds demand the low set, compact, mutton type. The ram and ewe should have the same general form as the ideal fat wether, except that more importance in the breeding classes should be attached to low setness, strength of back, heart girth, and roominess of middle. It is more important also that the legs be straight and strong at the hocks and pasterns.

The deep, wide, low set compact type is a guarantee of ability to produce lambs possessed of a natural tendency to thick flesh, early maturity, and quality carcasses.

Head, neck, and forequarters The observations of breeders indicate that the ram that has a strong head and neck, a bold fearless carriage, and a deep toned voice is a surer breeder and a more prepotent sire than one weak in these characters. In like degree, the ewe which shows refinement in the head and neck features has the evidences of femininity which are associated with regular breeding habits. The more pronounced the characters which express strength and masculinity in the

ram, or refinement and femininity in the ewe, the better. A broad head and a short strong neck are desirable also because they usually are associated with a broad, deep body. The eyes should be large and the mouth sound. At every opportunity the student should test his ability to determine the age by the appearance of the teeth. A full broad bosom is desirable in both ram and ewe because it is an evidence of constitution and is associated with the correct type. The shoulders should be compact and smooth. Shoulders which are open or too sharp on top, or those which are heavy and coarse and prominent at the shoulder points, are hard to cover and in the carcass represent cheap meat.

Middle The most important essentials of a good middle are a broad, strong back and loin, a full, deep heart girth and a roomy middle. Most breeding sheep are slack just behind the shoulders, too flat in their forerib, and weak in the back. A good middle means constitution, feed capacity, and in the ewe is essential to regular breeding performance. Strength and width of back and loin are important because they mean good muscular development and weight in the choice areas of the lamb carcass. The ram should be shorter in the back and closer coupled than the ewe.

Hindquarters Faulty rumps are very common, as also are light legs of mutton, cut up twists, and crooked hind legs. A broad, fairly level rump is especially important in the ewe, since it means a large pelvis and ability to give birth to the lamb without difficulty or complication. Good development here is important also because the rump represents a large part of the leg-of mutton cut. A low, full twist and good depth and thickness through the region of the lower thighs are essential for the same reason. The leg of mutton represents the most valuable portion of the lamb carcass. Straight hind legs and strong pasterns are important, especially in the ram, and should always be considered when judging the ewe classes. A sound udder in the ewe and normally developed testicles of uniform size in the ram are points which should be noted here.

Flesh or covering Although excessive fat is a handicap to regular breeding performance, the ram and ewe should be



GRADES OF WOOL

These specimens of wool "in the grease," or in the uncleaned state, as shorn from the sheep, illustrate grades used in the classification of United States wools. The specific grade of each sample is indicated in terms of its equivalent in the official wool standards which, in complete form, comprise twelve grades, based on diameter of fiber. The samples represent, likewise, the maximum diameter of fiber of the "blood" grades which, for the most part, are broader in scope than the numerical grades. The following table presents the correlation of the twelve grades of the numerical classification and the seven grades of the "blood" classification:

Official Standards	"Blood" Grades
80's, 70's, 64's	Fine
60's, 58's	$\frac{1}{2}$ blood
56's	$\frac{3}{8}$ blood
50's, 48's	$\frac{1}{4}$ blood
46's	Low $\frac{1}{4}$ blood
44's	Common
40's, 36's	Braid

(Courtesy Agr. Marketing Service, U. S. Dept. of Agr.)

naturally thick-fleshed and possessed with the ability to put on fat easily and keep it smooth and firm. This is highly desirable, since it insures flesh-producing capacity on the part of the market lamb.

When fitted for show, they should be covered all over and handle firm and without the accumulation of excess fat in the region of the lower forerib and at the dock. The most common



Typical wool fibers of different grades (magnified) A, fine wool B, quarter blood, C, braid wool. (Courtesy Agr Marketing Service, U S Dept. of Agr.)

faults are lack of covering on top of the shoulders and loin, a general tendency to softness, and excess soft fat at the dock and lower ribs.

Fleece. The different breeds of mutton sheep vary considerably in the type of their fleece. In the long-wool breeds the fleece is six to ten inches in length of staple, while in the medium-wool breeds it measures from two to five inches for a year's growth. Compared with the medium-wool, the long-wool fleece is more open, coarser in its quality, has little or no crimp and less yolk.

Irrespective of breed, the more nearly the fleece conforms to the description given in the score card the higher will be its selling value. Length of staple is desirable not only because it means a heavier-shearing fleece, other things being the same, but also because it gives a stronger thread. Wool that is two and one-half inches or more in length is called combing wool and sells usually for about six cents more a pound, on the grease basis, than wool less than this in length, called clothing wool.

A dense fleece is one in which there is a large number of fibers to each square inch of body surface. Density is desirable because it means weight for the clip, fineness of fiber, and protection from the weather. Other things being the same, the finer the quality of the fiber, the more valuable will be the clip, for it makes a finer, more expensive cloth. The finer the fiber, the greater the amount of oil or yolk.

The fiber in medium-wool sheep is crimped, while that in most long wools is wavy or falls in ringlets. The finer and more dense the fleece, the more numerous and distinct is the crimp, as a rule. A distinct and regular crimp indicates strength and fineness of fiber. A fleece that is fairly uniform in the number of crimps to the inch is very much more valuable than one lacking this desirable characteristic. The more nearly the wool on the thighs conforms in quality and crimp to that on the body and shoulders the better it is.

A bright, clean fleece outsells a dirty one because the fibers are stronger, there is less shrinkage in weight, and less expense in cleaning. Also, a fleece with brightness and luster takes and holds the dyes better than those which are dull. Dark fibers

and hair or kemp are very objectionable because they cannot be dyed. A reasonable amount of oil or yolk is beneficial because it gives strength to the fiber, imparts luster, and makes the wool covering more impervious to rain and snow. An excessive amount of yolk, however, means heavy shrinkage when the wool is scoured.

A bright skin indicates health in the sheep and is usually associated with a bright fleece. In the medium-wool breeds the skin should be pink; in the long-wools the shade is paler. Dark skins are common in sheep of some age and breeding service. A skin that is covered with blue or black spots is more objectionable than one that is uniformly dark or pale.

SIMPLE COMPARISON

The division of points shown above represents an appropriate grouping for use in exercises where simple comparisons are made. When placed on a card of the type used in many junior vocational judging contests, the outline would be as shown on the opposite page.

SOME USEFUL DESCRIPTIVE TERMS

Command of the livestock terms used by the practical sheepmen is essential for accurate and clear descriptions or in making comparisons. Repeated drills on the use of the terms descriptive of the ideal and common faults is desirable as a preparation for reason giving.

General appearance:

Ideal. Medium to large, rugged; form deep, wide, low-set, blocky, compact, symmetrical, balanced, straight lined.

Common faults. Small, light, too big; form leggy, rangy, light bodied, shallow, narrow-bodied, broken topline, lacks balance or symmetry.

Head, neck, and forequarters:

Ideal. Head broad, strong, masculine in ram; refined and feminine in ewe; neck short, strong; shoulders com-

Judging Contest Card for Breeding Mutton Sheep

Class No.

Contestant's No.

Class Name

GENERAL POINTS	PLACING				GRADE
	1st	2nd	3rd	4th	
General appearance—25 per cent... (Size, general form, lines)					
Head, neck, and forequarters—10 per cent (Head, neck, shoulders, brisket, fore- legs)					
Middle—15 per cent (Back, loin, heart girth, ribs, flanks)					
Hindquarters—10 per cent (Rump, thighs, twist, leg of mutton, legs)					
Flesh or covering—20 per cent. (Amount, evenness, and quality of covering)					
Fleece and skin—20 per cent (Amount, quality, condition of fleece)					
Final placing					
Judge's grade .					

compact, smooth, brisket broad, deep, full; legs short, straight, strong, ample bone with quality, pasterns strong.

Common faults. Head weak, narrow and long, lacks masculinity in ram; long, narrow, coarse, lacks femininity in ewe; shoulders open or sharp on top, coarse, heavy; brisket narrow, weak, pinched; legs long, knock kneed, light boned, weak, broken pasterns.

Middle:

Ideal. Back and loin straight, broad, strong, ribs well sprung, heart girth deep and full; coupling strong; deep, roomy middle; low flanks.

Common faults. Back and loin low, weak, narrow; ribs

flat, heart girth pinched, middle shallow, light, coupling long, weak, cut up in flanks

Hindquarters.

Ideal Rump long, broad, level, twist deep, full, leg of mutton thick, heavy, strong, firm, legs straight, strong, pasterns strong

Common faults Rump short, steep, narrow, pinched at dock, cut up in twist, light, weak, pasterns weak, broken

Flesh or covering.

Ideal Thick, even, firm covering

Common faults Bare, raw, thin, light covering, lacks condition, overdone, soft, rough

Fleece and skin

Ideal Heavy shearing, long staple, fine, compact, even, crimp pronounced even, clean, bright typical of the breed, skin bright, pink

Common faults Short, open, coarse harsh, dry, dirty, yolk caked, dark fibers, black or brown wool, cotted, not typical of the breed, skin dark, blue, pale, spotted

PLACING WITH WRITTEN REASONS

By this time the student should have acquired sufficient knowledge of the ideal type and the common faults to profit most by placing easy classes and writing reasons

The set of reasons for placing a class of grade breeding ewes, submitted in a junior contest, is reproduced on the opposite page as a good example of what the student should strive for in such an exercise. This boy placed the class correctly and his reasons received a grade of 45 of a possible 50

PLACING WITH ORAL REASONS

In judging the breeding classes, especially in contest rings and when oral reasons are to be given, it is important to give

LIVESTOCK JUDGING CONTEST

Contestant's number: 17 Date: June 20, 1940

Class: Mutton Breeding Ewes

Placing: 1st: 2 2nd: 3 3rd: 1 4th: 4

Number 2 was placed first over Number 3 second.

Number 2 was deeper and wider bodied, stronger of back, thicker covered all over, and had a cleaner, heavier shearing fleece than Number 3. However, Number 3 had a thicker leg and deeper twist than 2.

Number 3 was placed second over Number 1 third.

I will grant that 1 was shorter of neck and more compact on top of the shoulders than 3; but 3 was stronger in the twist and leg of mutton, and had a finer fleece than Number 1.

Number 1 was placed third over Number 4 fourth.

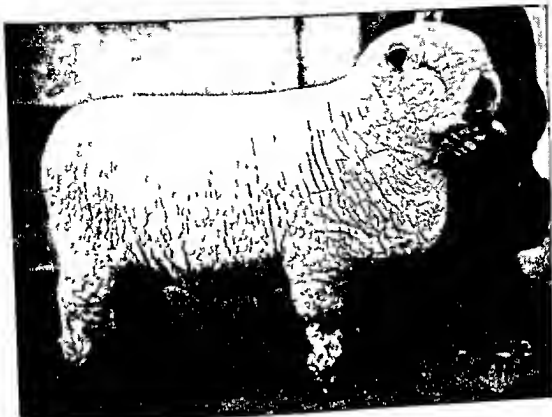
Although 4 had a superior fleece, Number 1 was placed over her because she was smoother in the shoulders, broader backed, and less bare than 4. Number 4 was very thin and lacked constitution.



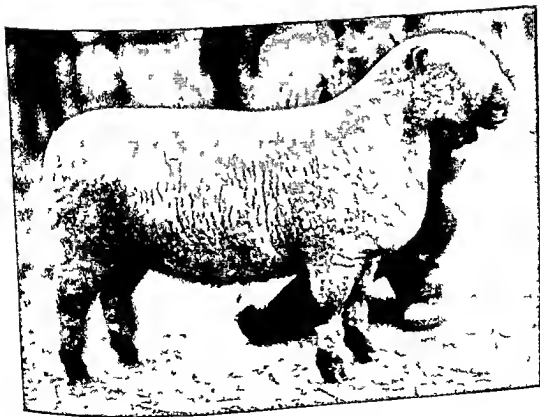
Ewe Number 1



Ewe Number 2



Ewe Number 3



Ewe Number 4

attention to the time to be allotted for general inspection from a distance and for handling, as well as to the proper holding and posing of the individual sheep

For the breeding classes, the eighteen minutes usually allowed for placing and note taking should be divided into three periods. During the first period, which should be from three to five minutes, the ewes should be lined up broadside, one behind the other, or quartering, and the students required to stand back a distance of about 15 feet. During this time he should observe the general type, strength of back, the breed type features, the general character of the fleece, and the set of legs. In the second period, which should be from eight to ten minutes duration, the sheep should be stood side by side with spaces between them of about 8 feet. During this time the students are allowed close inspection for handling and the examination of the fleece. For the last five minutes the ewes should be lined up, quartering, and the students required to stay back on the right side a distance of 15 feet while further close inspection may be permitted from the left side.

These final minutes should be employed by the student to check up on his observations, to come to a final decision on his placing and to make notes on the important differences between the individuals of the respective pairs. Any time that remains should be used to organize his reasons and to endeavor to fix the mental picture of the class so firmly that it will not fade before the reasons are called for.

The sample set of reasons which follow are reproduced as they were given orally for the class of Shropshire yearling ewes pictured on pages 172 and 173. The official placing of the class was the same as the order in which they are shown, 1—2—3—4. Of course, not all of the differences which had a part in determining the placing are apparent from the pictures. This is especially true of the covering and handling qualities, the skin, and to a lesser degree, the details of conformation and the quality and character of the fleece.

My placing on this ring of Shropshire yearling ewes was
1—2—3—4

"I placed Number 1 over Number 2 because she was a wider, deeper-bodied, lower-set type of ewe with a shorter neck, more width at the floor of her chest, and a leveler rump than 2. Also, Number 1 had a heavier-shearing fleece and was a little thicker and as firm in her covering as Number 2. I will grant in favor of 2, however, that she stood straighter on her hind legs and had a finer fleece than 1.

"In the second pair, I placed 2 over 3, conceding that 3 had a shorter neck, more prominent brisket, and a leveler rump than 2. But I preferred 2 because she was a little lower set, was stronger in her back, deeper in her twist, had less dark wool in her wool cap, a more compact and uniform fleece, and was more evenly covered, and firmer than 3.

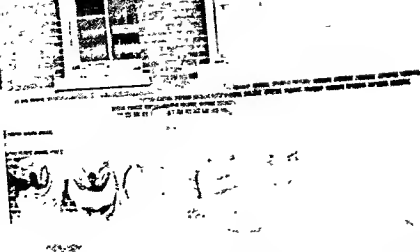
"In the last pair, I considered 3 a fairly easy winner over 4, although Number 4 had a finer fleece and was less soft at the lower rib and dock than 3. Yet I placed 3 over 4 because she was stronger in her back, deeper and wider bodied, had more rugged bone, and showed more Shropshire character in her head and ear than 4. She also had a heavier shearing fleece, a pinker skin, and was thicker covered all over than 4. I faulted 4 chiefly because of her shallow body, weak heart girth, coarse ears, and long face.

"These are my reasons for placing the class 1—2—3—4."

SHOW CLASSIFICATION FOR BREEDING SHEEP

The classification which appears to be most typical for the breeding classes of sheep at the large shows of the country is shown below.

1. Ram, 2 years old or over
2. Ram, 1 year and under 2
3. Ram lamb
4. Three ram lambs
5. Ewe, 2 years old or over
6. Ewe, 1 year and under 2
7. Ewe lamb



The undefeated first prize breeder's young flock, 1910, shown by George McKerrrow & Sons Company, Pewaukee, Wisconsin. Note the strong fronts and model Shropshire heads.

8. Three yearling ewes
9. Three ewe lambs
10. Champion ram
11. Champion ewe
12. Exhibitor's flock, one ram any age, one aged ewe, one yearling ewe, and one ewe lamb
13. Breeder's young flock, one yearling ram, two yearling ewes, and two ewe lambs
14. Get of sire, four animals, any age, either sex, bred by exhibitor
15. Pen of four lambs, two ram lambs and two ewe lambs

Except for the Dorset breed, lambs must be dropped on or after January 1 of the year of the show.

BREEDS OF SHEEP

According to census figures, there are thirteen main breeds of sheep represented in the United States. Listed in the order of the number of each that were registered or pure-bred, they are as follows: Rambouillet, Hampshire, Shropshire, Merino (American and Delaine), Oxford, Southdown, Lincoln, Cotswold, Corriedale, Dorset, Cheviot, Romney, and Suffolk.

The distinguishing characteristics or breed-type features of

CHAPTER 6

Draft Horses

HORSES ARE classified with respect to type as follows: draft, saddle, light harness or roadster, heavy harness or coach, and ponies. The type to which a horse belongs determines the kind of work he is best qualified to perform and is expressed chiefly by his conformation and size. Special consideration will be given the judging of the draft and saddle types.

THE DRAFT TYPE

The draft horse (and mule) is still the most important source of farm power. Despite declining numbers, his production represents one of the large sources of farm wealth. Yet there is no class of animal on the farm which stands in greater need of improvement, and none where superior specimens command as great a premium.

Because of his deep, broad, compact, muscular form and heavy weight, the draft horse is suited to the work of pulling a heavy load at the walk. To do this work efficiently and wear well he must have, in addition to weight and power, an active disposition and tough quality of bone and feet. To become a good judge of draft horses, the student should familiarize himself with those characteristics of the ideal which adapt the horse to the particular kind of work he has to do.

SCORING THE DRAFT HORSE

There is no other animal that lends itself so appropriately to score-card judging as does the horse. This is because of the



Calipso, chosen in 1936 as the ideal Percheron type was remarkable in combining to an unusual degree powerful muscling and balanced proportions with style, quality of underpinning, and action rarely equaled.

very large number of characters or points which contribute to his make up and to the separate importance of these points. For these reasons the score card can be profitably used in a beginning course in horse judging for a relatively longer period than would be advisable in the case of most of the other classes of stock.

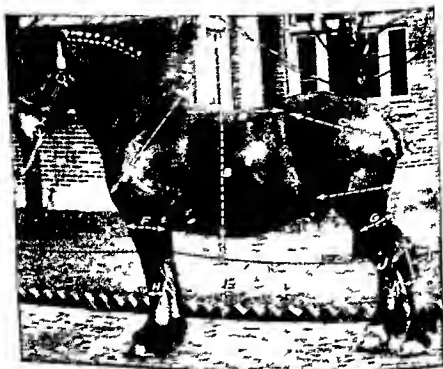


A trio of Percheron mares, owned by Michigan State College, showing alert carriage, strong muscling, clean joints, and correct position in the set of the hind legs and feet.

PROCEDURE IN MAKING OBSERVATIONS

In judging any class of livestock it is important that the judge be systematic and deliberate in the way he goes about the job. He must work fast, but should never give the impression of haste. Beginners are prone to commit three cardinal errors: they get too close; they use their eyes too little and their hands too much; and they do too much walking about. This is especially true in judging horses and breeding classes generally. Although the procedure suggested below cannot be followed exactly in show-ring judging, it is believed to be of sufficient importance to the beginner to warrant the attention given to it here.

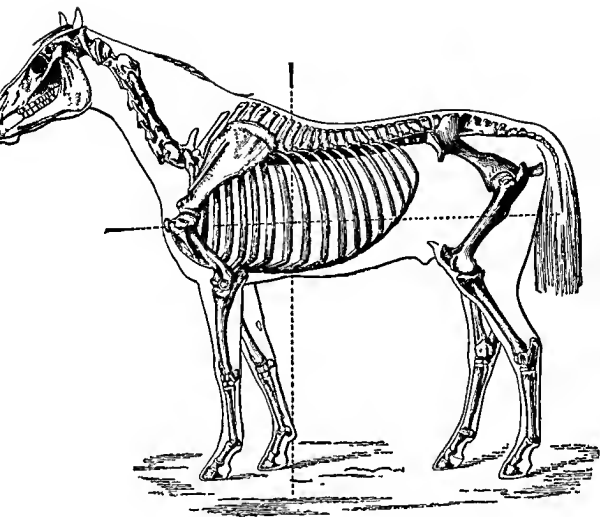
It is advisable to suggest at this point the desirability of taking certain precautions against possible accidents. The surest way to avoid being kicked or stepped on when making close inspection is to observe the rules of procedure suggested below.



Viewing the draft horse from the side the judge should observe the dimensions of the parts indicated in this illustration. The lines A, B and C should each exceed the length of the back and loin D. The depth of the middle B should about equal the distance from the underline to the ground E. The forearm F the thigh L, the gaskin G the cannons H and K, and the hock, J should be very broad because they mean strength of muscling and broad flat cannons and hocks. It is very important also that the hocks be deep as shown at L. The photo is of the International grand champion gelding Blucher.

The most advantageous points of observation are all outside the danger zone. One should never approach a horse from behind or without speaking to him first. It is safest to go up at the shoulder first. In handling the horse one's actions should be quiet deliberate and fearless. Such a manner will do much to allay nervousness or temper.

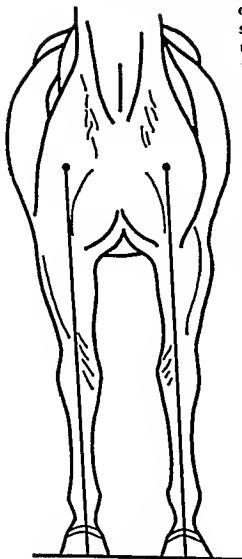
Observation from a distance. In scoring an individual or in judging a class of horses the first step should be inspection from a distance the horse or class presenting a side view. When a class of three or more is being judged the students should be



Skeleton of the horse with outline of the contour of the body. This illustration shows the relation of the bones and skeletal framework to joint formations and body conformation.

required to stand back at least 30 feet; when scoring a single individual, half this distance is sufficient. The horse should be held at attention, on level ground or with the front feet on a slight rise, and with all four feet squarely placed under him.

With this side view and the right distance, the best opportunity is presented to observe accurately the head and neck, carriage, the general type, the symmetry of proportions and lines, and the set of the legs and the slope to the pasterns. The common faults which are clearly revealed from this position are plain heads and necks; straight shoulders; long backs; weak



The correct standing position of the foreleg viewed from the front. A plumb line dropped from the point of the shoulder should bisect the knee cannon, fetlock, pastern, and foot.

couplings, shallow bodies or slim middles, leggy or with too much daylight under them, a lack of muscle, compactness, and symmetry, back or over at the knees, light bone, short, upright pasterns, and too much set to the hind legs, or sickle hocks

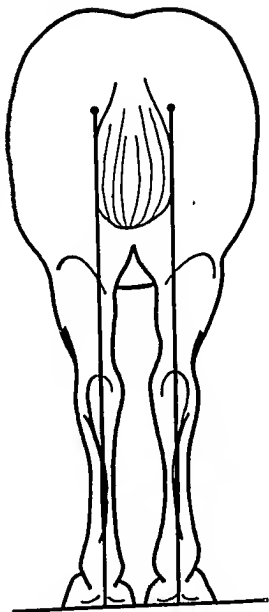
Close inspection. Next, the horses of a class should be stood side by side, preferably about 15 feet apart. Closer inspection should now be made while circling the horse slowly. Standing just in front of the horse, the student should observe the eyes, width of chest, muscling of the arm and forearm, the straightness of the forelegs, and the position, size, shape, and quality of the front feet. The faults to be detected here are small, weak eyes, narrow chest, weak muscling, toeing in (pigeon toed) and toeing out (splayfooted). This is a good time to look into the mouth to check the age, and to note such abnormalities as an undershot jaw, or the opposite condition, overshot jaw or parrot mouth.

Next, the student should take one step to the left (or right), noting especially the hoof heads on the front foot next to him, the inside face of the hock,

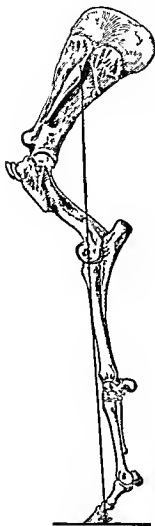
the rear ankles, the position and width of the hind feet, the spring of rib and muscling of the arm and stifle. In this position the student should have in mind the detection of the following serious defects: small, narrow feet; a tendency to sidebones; thick, boggy hocks; puffy ankles; flat ribs; rough hips; and lack of muscle. This is a good time to step up to the shoulder and estimate the height at the withers.

Then directly from the side, and at a distance of about 6 or 8 feet, he should note again the lay of the shoulders, strength of the back and coupling, the turn of the hips and croup, depth of rib, the set of the legs and pasterns, and the substance and quality of the bone and joints. He should study carefully the shape and quality of the hocks. This close inspection should be relied upon especially to disclose such weaknesses as over or back on the knees; stubby, coarse pasterns; flat, shelly feet; filled, meaty, and curby hocks; and cocked ankles or "up on the rear ankles."

Next, the judge should take a position directly behind the horse and at a distance of about 6 feet. From here he can observe most advantageously the set of the hind legs and feet, the width of the heels, the thickness or muscling through the hind-



The correct standing position, viewed from the rear. A plumb line dropped from the buttock should bisect the hock, cannon, and ankle. The feet should point out slightly.



The correct standing position of the foreleg viewed from the side. A plumb line dropped from the center of the shoulder blade should bisect the elbow joint and foot.

quarters or stifles (britchen), and the width and muscling of the croup. The draft horse should be as thick through the lower thighs as he is wide in the hips and croup. It will be noted from this position that most draft horses stand too wide or open at the hocks, too close at the ground, and with too much of their weight on the outside of their feet.

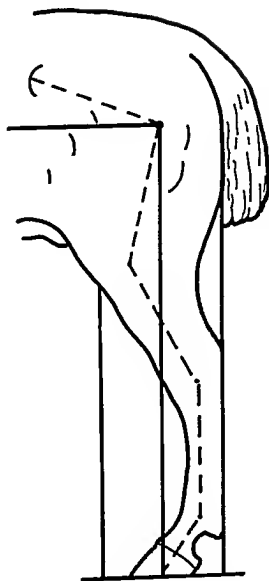
Taking one step to the left (or right), the eye of the judge next should take in again the arch of the ribs, the muscling of the arm, forearm and stifle, and especially the lines of the knees, cannons, fetlocks, pasterns and hoof heads and the width of the heels. These lines should be sharp and clear. Pinched, narrow heels coarse, round bone flat ribs and weak muscling are common faults easily observed from this angle.

The judge next passes to the left (or right), making the same observations that were made on the other side, and then on around to the front, completing the circuit. From the front, and slightly to one side, he should again note especially the hoof heads for signs of sidebones, the position, size, and shape of both front and hind feet, the texture of the horn, and the evidences of quality, or the lack of it, in the hocks and ankles.

If the student has in mind a fairly clear picture of the ideal and knows what to look for in the way of defects and weaknesses, he should be able, with sufficient practice and experience, to

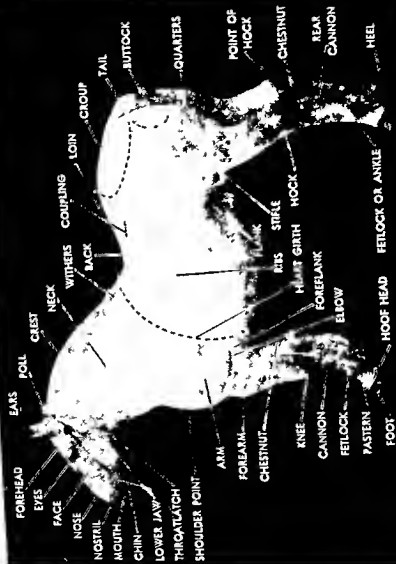
make these close observations in no more than the time required to walk slowly around the horse. After each individual has been subjected to this detailed inspection, they should be examined for action.

Judging the action. In studying the action, the judge should take a position so that he can observe the horse going straight away and then as he comes directly towards him. Beginners should have the opportunity also of viewing the action from the side. The horse should be moved first at the walk and then at the trot.



The correct standing position of the hind leg, viewed from the side. When the cannon is perpendicular to the ground, a plumb line dropped from the point of the buttock should just touch and coincide with the back line of the hock and cannon.

There are four fundamental points that should be observed in the action of the draft horse: first, trueness; second, length; third, height; and fourth, promptness. The most common faults are a lack of length and spring in the stride, going wide or open at the hocks, toeing-in or going pigeon-toed in front, and sluggishness. It is especially important that the hocks be kept close and well in, and the feet be picked up with a snap. Any deviation in trueness or straightness can be judged most accurately when the horse is going away or coming to the judge. The length and height of the stride can be seen best with a side or partial side view.



The score-card points of the horse

Lameness in front will cause the horse to nod, the head going down with the sound foot. The hips should be watched closely for evidence of lameness behind. A tendency to crampiness or stringhalt is most likely to be shown when the horse is turned sharply. The breathing should be observed after moving at the trot to detect unsoundness of wind. If any is suspected, the horse should be moved again at a sharp pace.

The next and final step is observation from a distance. In case a class is being placed, the horses should be lined up again to give the students a side or partial side view, the heads facing in the same direction. It is at this time, when all the individuals of the class can be seen and accurate comparisons made, that the student should reach a decision as to his placing and make final notes of the important reasons to justify it.

Score Card for the Draft Horse

SCALE OF POINTS	STANDARD OR PERFECT SCORE
SIZE AND GENERAL TYPE—15 PER CENT	
1 Height at withers (16 to 17 hands)	
2 Weight (<i>Stallions</i> in show condition, 2000 to 2200 lbs, <i>mares</i> in show condition, 1800 to 2000 lbs. In good breeding condition they should weigh about 200 lbs less than in show condition)	6
3 Type or general conformation (Deep, wide, fairly low set, blocky, drafty, compact, symmetrical, smoothly turned, rugged, ample bone and muscle)	9
HEAD, NECK, AND SHOULDERS—15 PER CENT	
4 Head (Proportionate size, straight profile, wide between the eyes, strong jaw, clean-cut features, intelligent, strong or masculine in the stallion, refined and breedy in the mare, nostrils large, lips even and firm)	3
5 Eyes (Large, full, prominent, clear)	2
6 Ears (Properly set, medium size, pointed, alertly carried)	1
7 Neck (Long, slightly arched, throatlatch clean, strong and crested in the stallion, feminine and breedy in the mare)	2
8 Shoulders (Deep, sloping, well muscled, withers fairly fine and well back, arm strongly muscled)	4
9 Carriage (Stylish, showing life and animation)	3
MIDDLE AND COUPLING—15 PER CENT	
10 Back (Short, straight, broad, strongly muscled)	4
11 Loin and coupling (Broad and strongly muscled over the loin, coupling close)	3

SCALE OF POINTS

STANDARD
OR
PERFECT
SCORE

- 12 Ribs (Deep, round, close, showing constitution, feeding capacity, stamina, and strength) 6
13 Flanks (Deep in the back rib, low, full) .. 2

HINDQUARTERS—15 PER CENT

- 14 Croup (Fairly level, broad, full, muscular) 4
15 Hips (Smooth, level) 2
16 Tail (Well set, stylishly carried) 1
17 Thighs and quarters (Deep, full, powerfully muscled, thick through the saddle and britchen) 6
18 Gaskin (Broad and strong, muscled) 2

LEGS, FEET, AND PASTERNS—25 PER CENT

- 19 Set of forelegs (Straight, viewed from front and side, feet squarely placed, viewed from in front, a perpendicular line dropped from point of the shoulder should bisect the knee, cannon, fetlock, pastern and foot, viewed from the side a perpendicular line dropped from the middle of the elbow joint should meet the ground at the center point of the foot)
20 Set of hind legs (Correctly set, viewed both from side and rear viewed from the side, when the cannon is perpendicular to the ground, the back line of the cannon when extended up should just touch the buttock, viewed from the rear, a perpendicular line dropped from the middle of the buttock should bisect the hock, cannon, and fetlock, the toes should turn out slightly) 3
21 Forearms (Broad, strongly muscled) 1
22 Knees (Broad, deep, clean-cut, straight, well supported) 2
23 Front cannons (Broad, flat, short, clean, tendons defined, ample bone with quality) 1
24 Front fetlocks (Straight, broad, clean) 1
25 Front pasterns (Sloping at an angle of about 45 degrees, good length, clean, strong) 1
26 Forefeet (Large, round, wide at heel, good depth, straight, smooth hoof wall, tough quality of horn, soft cartilages, frog, bars, and sole strong and sound) 4
27 Hocks (Correctly set, broad, deep, flat, clean) 4
28 Rear cannons (Broad, flat, short, clean, tendons defined, ample bone with quality) 1
29 Rear fetlocks (Straight, broad, clean) 1
30 Rear pasterns (Sloping at an angle with the ground of about 50 degrees, good length, clean, strong) 1
31 Hind feet (Large, round, wide at heels, good depth, straight, smooth hoof walls, tough quality of horn, frog, bars, and sole sound) 3

ACTION—15 PER CENT

- 32 Walk (Prompt, long, true, high, springy, free, regular stride) 9
33 Trot (Spurred, straight, high, long, collected stride) 6

Total

100



Left: The head, eye, ear, neck, and shoulder of the Percheron stallion Marceau show animation, intelligence, strength, masculinity, and breed character to a superlative degree. *Right:* The very attractive front of the grand champion Percheron mare Nerva, owned by Fairholme Farms, Lewisville, Indiana, shows a nearly perfect head, eye, ear, and neck, reflecting intelligence, femininity, and Percheron brood mare character. (Left picture by courtesy of Ralph L. Smith, Kansas City, Missouri)

DISCUSSION OF THE SCORE-CARD POINTS

The description given in the score card on pages 203 and 204 attempts to picture the ideal draft horse in all his parts—to set up a standard of perfection. The discussion which follows is calculated to explain further the importance of the various points and to give the reasons or philosophy back of the requirements as they have been set forth in this standard.

Size and general type. The height of a horse is taken at the top of the withers and is stated in "hands." A hand is equivalent to 4 inches. The prospective judge should determine the height of his own eyes, nose, or chin so that with practice he can, by standing at the horse's shoulder, determine the height with practical accuracy. The heavy draft horse, weighing from 1700 to 2000 pounds, should measure from 16 to 16-3 hands in height. By estimating the height and observing the type and condition, the weight of the horse can be closely guessed.

There has been a decided movement in recent years away from the overly-big horse. This is a recognition of the fact that there no longer exists a commercial demand for the kind which was popular before the advent of the truck and tractor. Expert

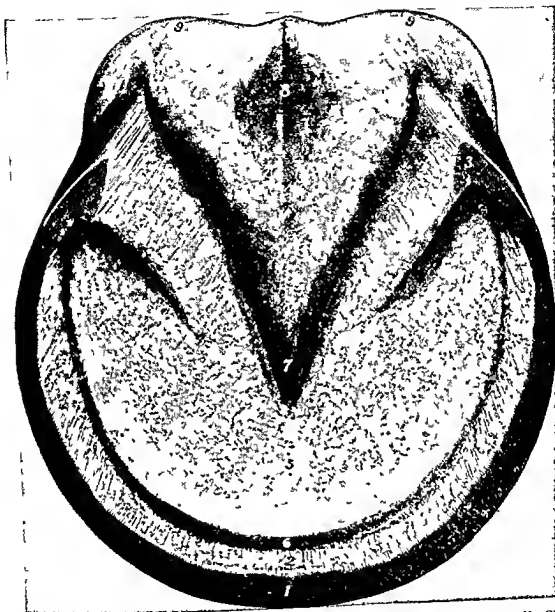
horsemen are generally agreed that the most desirable weight for breeding stock of the major draft breeds is about 2000 pounds for stallions in good condition and 1750 to 1800 pounds for mares. For general farm work the most popular horse is one that is active and quick in his movements and of about 1600 pounds in weight.

Weight is an important factor in the work of the draft horse. Not only is it an element in strength, but it is essential to hold the pulling horse to the ground. It should be remembered, however, that weight contributes most to strength when it is properly proportioned in the draft type and combined with quality and a spirited disposition. Weight which is due to excessive fat, rather than to muscle and bone, does not add to draft power.

The general conformation of the ideal draft type is one which reflects strength and power with reasonable activity. The draft horse should be fairly low set because it contributes to stability and makes possible the most effective mechanical use of his weight and strength. Extreme low setness, or squattiness, on the other hand, is not desired because such a horse will lack the freedom and length of stride of the good walking horse.

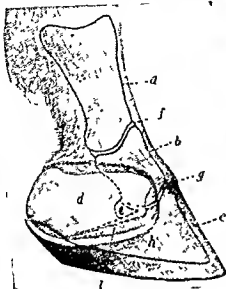
In noting the depth, width and general draftiness of the horse, the student should observe also the relation of certain body dimensions. For example the depth of shoulder and middle and the distance from the hips to the end of the buttock should each exceed the distance from the withers to the hips. The depth of middle should equal the distance from the bottom line to the ground. The forequarters, middle, and hind quarters should be joined together in a symmetrically blended, harmonious whole to give an impression of great strength, and beauty as well. Fat should not be mistaken for muscle. Strength of muscling is best shown by development of the arm, width and muscling of the forearm and gaskin, and the thickness through the britchen or stifles. Associated with the drafty type and strong muscling is bone of ample substance. Light bone and weak muscling usually go together.

Head, neck, and shoulders. A long clean throated neck, properly set on sloping shoulders, gives an attractive style and



Ground surface of the foot, showing 1) ground border of hoof wall, 2) laminae of hoof wall, 3) angle of hoof wall, 4) bar; 5) sole; 6) white line, 7) apex of frog, 8) cleft of frog, and 9) bulbs. (From *Anatomy of Domestic Animals* by Sisson and Grossman, published by W. B. Saunders Co., Philadelphia)

good looks, reflects an energetic disposition, and is associated with high free action and quality. Low-headed, short-necked, thick-throated horses are usually sluggish in temperament, slow-gaited and stumbling in action, and generally lack quality. An oblique shoulder is associated also with sloping pasterns, and



A normal lateral cartilage (d) and its relation to the bones of the pastern and foot; a) long pastern bone; b) short pastern bone; c) foot or coffin bone; d) lateral cartilage, e) navicular bone, f) pastern joint; g) coffin joint, h) cut edge of hoof wall, i) fleshy leaves (From *Anatomy of Domestic Animals* by Sisson and Grossman, W. B. Saunders Co)



This illustrates a common fault in the set of the hocks and ankles, viewed from the rear. The hocks are open or too wide apart, the points of the hocks are out instead of in, the ankles are twisted, and too much of the weight is thrown on the outside walls of the feet.

together these mean less concussion or shock when the striding foot hits the ground, thus contributing to length of service and soundness, as well as to better action. Thick, low withers are associated with straight, upright shoulders and short necks.

The strong masculine character, which should be shown in the head, neck, and manner of the stallion, is of considerable importance in judging. It is regarded by experienced breeders as the most important sign of the prepotent sire. Likewise, the refinement and other evidences of femininity in the mare are believed to be indicative of her ability to breed regularly.

Middle and coupling. A short, straight back, strong coupling, a roomy middle, and low flanks are essential in the draft

se because they insure feed acity, constitution, ruggedness, and strength. Pulling tests have demonstrated an important correlation between short back and good depth through the heart, and draft power. Long-backed, light-bodied horses are poor "doers" and lack both strength and endurance. It is especially important that there be great depth and strength of muscling across the loin or kidneys. The coupling is said to be close when the last rib is close to the hip. A strong coupling is determined by the spring of the back ribs, the muscling across the loin, the closeness of the last rib to the hip, and the depth of the rear flank.

Hindquarters. The propelling muscles used in draft are located chiefly in the regions of the thighs or quarters, loin, and back. The importance of proper form and strong muscling in these parts is obvious. A long, broad, moderately sloping croup offers a large area for the development of strong muscles and offers effective leverage in pulling. High, rough hips and a steep croup go with a weak coupling and produce an unsightly topline. A properly set, well carried tail contributes to an attractive general appearance.

Legs, feet, and pasterns. The wearing qualities of the draft horse, as well as the efficiency with which his energy is used, is determined pretty much by the character of his underpinning. This is a matter involving chiefly the substance and quality of the bone and the position or set of the legs and pasterns. Any deviation from the normal in the set or position of the legs, pasterns, and feet impedes the action, predisposes to the development of unsoundnesses, and shortens the period of usefulness. A lack of substance or of quality in the bone and joints also



These rear pasterns are much too short and upright, and the feet are too small for a draft horse.



Judging action (front view)

Top At the walk, the feet should be lifted high and brought forward in a straight line. The stride should be long, free, and springy, without stumbling. *Bottom.* At the trot, the draft horse should show plenty of life, some style, and move with spring and freedom, as well as going true, free, and collectedly (Courtesy Ind. Exp. Sta. Circular 99)

affects the strength, efficiency, and wearing qualities.

"Back on the knees" is a serious fault because it is due to weakness in the joint itself and a lack of support below. It causes strain on the back tendons and in action produces a break or jerk in the rhythm of the stride. Many draft horses stand toed in or pigeon-toed on one or both front feet. This means an unequal distribution of the weight and shock of travel, causes strain, and tends to cause hardening or ossification of the lateral cartilages, or to produce sidebones. Also, such horses do not go straight; it usually causes the striding foot to be thrown out, that is, to "wing-out" or "paddle." A toed-out position, on the other hand, usually means a tendency to go too close in front, or to interfere.

When the hind leg, viewed from the side, has too much angle or "set" to it, the enormous strain which normally is placed on the hock when the horse is pulling is greatly increased. The condition is most serious when the hock itself is small, thick, and round. It may cause curb, chronic, boggy or filled hocks, or spavin. It does not interfere much with good action unless the set is extreme and is associated, as it often is, with a base-wide, cow-hocked position, in which case it causes spraddling. This fault is

more common in light than in draft horses.

Another very common fault in the set of the hind legs is revealed, when viewed from behind, by being too wide or open between the hocks and with the hind feet toeing in or straight ahead. This produces a short, stilted stride and results in excessive shock and wear.

With most draft horses the pasterns are too short and steep, which means a short, stilted gait, a tendency to stumble, and the development of side-bones. A good slope to the pasterns insures a free elastic stride and less concussion and wear on the foot and leg.

The feet of most draft horses would be improved by more depth, wider heels, and more size. Too many also are soft and brittle of horn. Feet that lack shape, size, or quality do not wear well and are early disposed to unsoundnesses. A large shapely foot squarely placed under straight



Judging action *Top* When viewing the action from the rear, one should note especially the way the hocks are carried. The hocks should be flexed sharply and both the feet and hocks carried forward in a straight line. Most draft horses go too wide at the hocks. The foot should be brought up with a snap and the bottom fully exposed with each stride. *Bottom* When viewing the action from the side, one should note especially the length of stride, the spring to the pasterns, the height, balance, and general style displayed. (Courtesy Ind. Exp. Sta. Circular 99)

legs contributes to greater stability in action, insures a firmer grip on the pulling surface, and distributes more evenly the shock of travel

The seriousness of any of these abnormalities in the set of the legs, pasterns, and feet will be exaggerated according to the degree to which they are associated either with a lack of substance or of quality. Cordy, flat cannons, lean hocks, clean, sharply defined joints, big shapely feet of quality, and ample substance insure strength, wearing qualities, and efficiency.

Action. The draft horse does his work mostly at the walk. His ability to walk fast without waste of energy, the development of temporary lameness, or unsoundness largely determines his usefulness. His performance at the trot is valuable chiefly because it brings into expression qualities of spirit and disposition, as well as of coordination, which are helpful in judging his value.

The natural action of the horse is influenced by his body conformation, the set of his legs and pasterns as already mentioned, and by his temperament and disposition. The way a horse is shod, his training, and the skill with which he is handled also have an important bearing on the action displayed. Long backed horses tend to drag their hind legs, while extremely short backed horses tend to forge. Extremely wide fronted horses, especially when the shoulders are loosely joined, have a tendency to roll, and the striding leg when brought forward winds around the supporting leg.

DEFECTS IN ACTION

The common defects in action have been named and briefly described by Gay as follows:

Forging. Striking the ends of the branches or under surface of the shoe of the front foot with the toe of the hind foot.

Interfering. Striking the supporting leg at the fetlock with the foot of the striding leg. It is a common result of a horse standing in the base narrow, toe wide, or splay footed position.



The great Carnot 66666 in action Note the flexion and position of the hock and the fold at the knee

Paddling. An outward deviation in the direction of the stride of the foreleg, resulting from the toe narrow or pigeon toed standing position

Winging. Exaggerated paddling in horses that go high, and consequently deviate most noticeably.

Winding or rope-walking. A twisting of the striding leg around the supporting leg after the manner of a rope-

walker, most commonly seen in the walk of wide fronted horses

Pounding Hitting the ground hard at the conclusion of a high stride

Rolling Excessive side motion of the shoulders, usually confined to wide fronted horses

Pointing A stride in which the extension is more marked than flexion, as is commonly seen in the trot of the Thoroughbred

Dwelbrog A scarcely perceptible pause in the flight of the foot, as though the stride had been completed before the foot touches the ground

Trappy. A quick, high, but comparatively short stride¹

COMPARATIVE JUDGING OF DRAFT HORSES

SIMPLE COMPARISON

When comparing two individuals or in placing a class of three or more, it is desirable in the interests of time and accuracy to dispense with the details of the score card and to concentrate on the more general and important points. A logical form or outline to follow in this is suggested by the general divisions of the score card. Such an outline will facilitate orderly observations and serve as an appropriate guide when the reasons are to be given orally or written. These points, when printed on a card similar to the kind used in many county, state, and national judging contests for vocational agricultural students, would appear as shown on the opposite page.

This outline or division of points is simple, definite, and complete, yet sufficiently detailed. In the use of this form in contest work the student does not write or give orally his reasons. However, the judge can determine fairly reliably, from the placings made for the respective points, the reasons for the student's final rating of the class.

The plan has much to recommend it in the conduct of junior contests. It simplifies considerably the work of grading the re-

¹ Carl W. Gay *Productive Horse Husbandry* (Chicago: J. B. Lippincott Company)

Judging Contest Card for Draft Horses

Class No.

Class Name Contestant's No.

GENERAL POINTS	PLACING				GRADE
	1st	2nd	3rd	4th	
Size and general type—20 per cent					
Head, neck, and shoulders—15 per cent					
Middle and coupling—15 per cent					
Hindquarters—15 per cent					
Legs, pasterns, and feet—20 per cent					
Action—15 per cent					
Final placing					
Judge's grade					

sults and at the same time eliminates the "personal equation" as a factor in determining the individual grades given. As a method or means of teaching the rudiments of livestock judging, also, it logically follows scoring practice as the next step in preparation for the more advanced work of placing with written or oral reasons.

PLACING WITH WRITTEN REASONS

Training in the ability to give clear, convincing reasons is an essential part of the development of the livestock judge. It seems most logical that attention to this important feature of the teaching program should be given at this point; that is, following score-card judging and practice in simple comparisons without expressed reasons.

As an aid in giving reasons, and preliminary to it, it will be helpful if the student familiarizes himself further with the common terms descriptive of the ideal or what is wanted, as well as of those which describe the common faults. These are summarized as follows:

SOME USEFUL DESCRIPTIVE TERMS

Size and general type:

Ideal Large, massive, rugged, deep, wide, fairly low set, blocky, drafty, compact, symmetrical, smoothly turned, strongly muscled

Common defects Light, small, light bodied, upstanding, leggy, rangy, too squatty, weak muscling

Head, neck, and shoulders.

Ideal Stylish carriage, sloping shoulder, strong and masculine in the stallion, refined, feminine, and breezy in the mare, head showing quality and intelligence, eye full and clear, neck long, clean throated, arched, ears alertly carried

Common defects Lacks style, low headed, shoulders straight, upright, head weak in stallion, coarse or strong in mare, plain, eyes small weak, cloudy, blind, lop-eared, coarse or heavy ears

Middle and coupling

Ideal Short, straight, strong back and loin, deep through the heart or middle, roomy middle, coupling strong, close

Common defects Long, low weak back and loin, shallow body, slim or light middle, short in back rib

Hindquarters

Ideal Nice turn to hips and croup or rump croup fairly level, wide, strong thick through britchen, strongly muscled in thighs and stifles

Common defects Rough, high hips, steep, short, flat croup light, weak in quarters, lacks depth and thickness in thighs and quarters

Legs, pasterns, and feet.

Ideal. Correct in set of hocks, side and rear view, stands straight and squarely on feet, sloping, springy, clean



Here is a rare combination of brood mare character, draft type and quality. The 1939 All American champion Percheron mare, Julia, with foal owned by Conner Prairie Farm Noblesville Indiana.

pasterns, clean, rugged bone of quality, clean, hard joints, big, round, shapely, tough feet

Common defects Sickie hocks, too much "set" to hocks, 217

open or too wide between hocks, back on the knees; standing toeing in or pigeon toed in front, toeing-out or splayfooted, cocked ankles or 'up on the ankles', short straight, stubby pasterns, small, narrow, flat, shelly, soft, cracked feet, hard or rough at the hoof heads, boggy, filled, coarse, thick, weak hocks, round, coarse, light cannons

Action

Ideal Prompt, spirited, showing animation long, true, high, springy, regular, collected

Common defects Slow, sluggish, awkward stumbling, short, stubby, stilted, goes wide at the hocks too close at the ground, goes wide in front, wings-out, crosses over, rope walks, interferes

SAMPLE CARD WITH WRITTEN REASONS

Consideration now will be given to the plan of exercise in which the reasons are written. In many state and local junior contests, written reasons are required on one of each of the divisions of livestock judged. These reasons necessarily must be brief because of the limitations of time and the space in which to record them. Every statement should be one of comparison. Pure description should not be indulged in because of limited time and also because the inference to be drawn from it is not always clear. In writing reasons it is essential that only the important differences or reasons be mentioned and that just the right word or words be used to express them.

The cards on which the reasons are taken are generally about 6 x 10 inches and of a plan illustrated on the opposite page. Included in the example is a nearly ideal set of reasons which actually was written for placing a class of draft mares.

It will be profitable to examine this sample set of reasons. The merit of them lies chiefly in the fact there were no serious mistakes in observation, unusually good judgment was shown in the points of difference which were stressed in comparing the individuals of the different pairs, and the reasons for placing the first over the second, and the second over the third, etc., were

LIVESTOCK JUDGING CONTEST

Contestant's number: 67 Date: June 20, 1939

Class: Draft Mares

Placing: 1st: 2 2nd: 3 3rd: 1 4th: 4

Number 2 was placed first over Number 3 second.

Number 2 was larger and more drafty, had more bone, and stood straighter on her front feet. In action she had a longer and truer stride than 3. Number 3, however, had more style and was cleaner in her hocks than 2.

Number 3 was placed second over Number 1 third.

Although 1 had more size and a straighter back than 3, Number 3 was more feminine and stylish, more sloping in pasterns, was more correctly set at the hocks, and had tougher feet than 1. Both moved wide at the hocks, but 3 was more prompt.

Number 1 was placed third over Number 4 fourth.

This was an easy placing, although 4 had more quality than 1; but Number 1 was lower set, deeper bodied, had more muscle and bone, stood straighter on her front legs, and moved straighter in front than 4.

stated simply and clearly. And the judge could not help but be favorably impressed by the legible writing and good punctuation.

The judge gave this boy 47 out of a possible 50 on his reasons in this class. The student's only mistake was his failure to observe, apparently, in the second pair, that Number 1, not only had more size, a straighter back, and was stronger muscled, but that she also was shorter in her back and coupling, deeper through the heart, followed more closely the accepted draft type as shown in 2, and had larger feet than 3. Number 1 also was superior to 3 in action. Although she was a trifle sluggish compared to 3, she had a much longer and higher stride. The official placing on the class was 2—1—3—4 and the student's total grade 93, 46 on his placing and 47 on his reasons.

PLACING WITH ORAL REASONS

If the student has successfully passed through the stages represented by the three types of judging exercises just discussed, he should be prepared to begin a study of the fourth—placing with oral reasons. By this time he should be familiar with the names and location of all the detailed score-card points of the draft horse and have acquired the standard terms useful in their description. He should have gained a knowledge of what is wanted, or the ideal, in each of these details, their functions, and their relative importance in relation to the whole. In the second step, by comparing two individuals in the more general points, the student's conception of the ideal should have become more clearly fixed and his habits of observation trained to see the larger and more significant differences.

In the third step the student was given his first real opportunity to test his knowledge of type, his ability to observe accurately, and his judgment when given carefully selected and easy classes to place. Also, practice in writing reasons according to the plan used should have served as a most important preparation for giving them orally. His training thus far should have taught him the importance of being systematic in the way he goes about the work of judging and the need for great concentration and alertness when studying the class.

Below are the reasons, as they were given orally, for placing the class of Percheron mares pictured on pages 222 and 223. The class was correctly placed 1—2—3—4, in the same order in which they are shown.

"My placing on this class of Percheron mares was 1—2—3—4.

"I placed Number 1 over Number 2 because she was deeper and wider in her body, more drafty in her type, and had more muscle and bone. She was longer and more level at the croup, more sloping in her front pasterns, stood on larger feet, and in action had a longer and more business-like stride than 2. I will admit in favor of 2, however, that she was more stylish in her carriage, had a nicer Percheron mare head and neck, and was more snappy in action at the trot than Number 1.

"In the second pair, I considered 2 a fairly easy winner over 3, granting that 3 was lower set, more drafty in her proportions, and more level at the croup than 2. Yet I placed 2 over 3 because she had more style, was deeper through the heart, cleaner in her bone and joints, stood more squarely on her front feet, and her feet, especially in front, were wider at the heels and tougher in quality than 3. In action, 2 showed more snap, carried her hocks closer, and went straighter in front than 3.

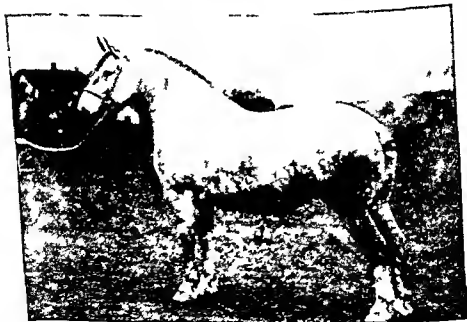
"Regarding the last pair, 3 and 4, I will concede in favor of 4 that she had more style and stood and moved straighter in front than 3; but I preferred 3 chiefly because of her superior type. She was lower set, more roomy in her middle, much stronger muscled through her britchen, was cleaner and more correctly set in her hocks, and stood on more rugged bone than 4. I objected to 4 chiefly because of her shallow body, leggy type, and light bone."

SHOW CLASSIFICATION FOR DRAFT HORSES

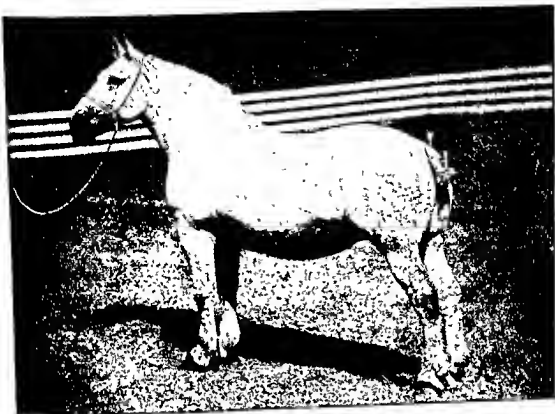
Students of livestock judging should be familiar with the show classification of the different breeds of livestock. Although the number of classes provided at the different shows varies somewhat according to the importance of the breed in that



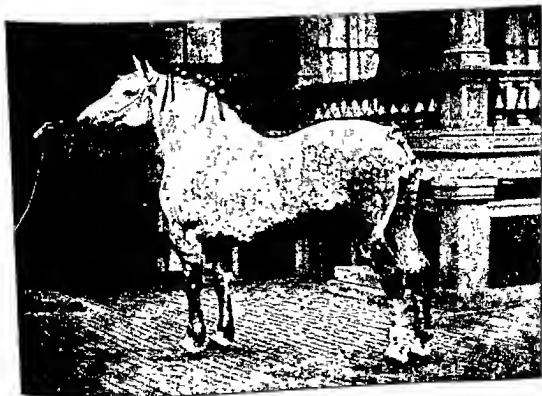
Mare Number 1



Mare Number 2



Mare Number 3



Mare Number 4

locality or state, and the size and resources of the show, there usually is one classification which is fairly typical of those provided at the larger shows. The classification maintained for the breeds of draft horses is, in the main, similar to the one shown below

- 1 Stallion, 5 years old or over
- 2 Stallion, 4 years old and under 5
- 3 Stallion, 3 years old and under 4
- 4 Stallion, 2 years old and under 3
- 5 Yearling stallion (futuraity)
- 6 Mare, 5 years old or over
- 7 Mare, 4 years old and under 5
- 8 Mare, 3 years old and under 4
- 9 Mare, 2 years old and under 3
- 10 Yearling filly (futuraity)
- 11 Stallion and 3 mares, any age
- 12 Get of sire (3 animals get of one sire bred in U S)
- 13 Produce of dam (2 animals produce of one mare, bred in U S)
- 14 Three mares, any age
- 15 Three stallions, any age
- 16 Stallion and 3 mares any age, bred by exhibitor
- 17 Senior champion stallion
- 18 Reserve senior champion stallion
- 19 Junior champion stallion
- 20 Reserve junior champion stallion
- 21 Grand champion stallion
- 22 Reserve grand champion stallion
- 23 Champion American bred stallion
- 24 Reserve champion American bred stallion
- 25 Senior champion mare
- 26 Reserve senior champion mare
- 27 Junior champion mare
- 28 Reserve junior champion mare
- 29 Grand champion mare
- 30 Reserve grand champion mare
- 31 Champion American bred mare
- 32 Reserve champion American bred mare

All ages are reckoned from January 1.

The senior championship group includes the ages of 3 and over; the junior championship those below 3 years.

In all cases, the rules of eligibility specify that animals must be purebred and recorded in the recognized national association of the breed in the U. S., or of the National Livestock Records of Canada.

There are no interbreed, or so-called sweepstakes classes, in large shows in the breeding classes; horses show only in their respective breed classes. The classification for draft geldings and mares follows:

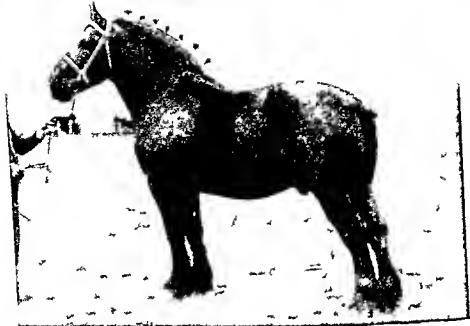
1. Draft gelding or grade draft mare, 4 years old or over, shown to halter
2. Draft gelding or grade draft mare, under 4 years, shown to halter
3. Champion draft gelding or grade draft mare, any age, shown to halter
4. Pair of draft geldings or mares, weighing not less than 3800 pounds, shown to wagon
5. Pair of draft geldings or mares, weighing not less than 3400 pounds and under 3800 pounds, shown to wagon
6. Tandem hitch of drafters, shown to suitable vehicle
7. Four-horse team, wheelers weighing not less than 3400 pounds, shown to wagon
8. Six-horse team, wheelers weighing not less than 3400 pounds, shown to wagon

BREEDS OF DRAFT HORSES

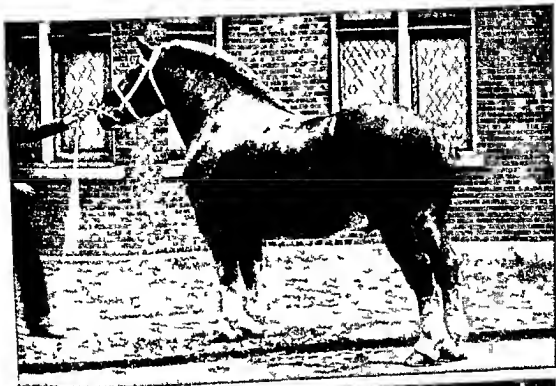
There are five breeds of draft horses in America today; namely, Percheron, Belgian, Shire, Clydesdale, and Suffolk. The distinguishing characteristics of each of these are briefly listed below.

PERCHERON

This breed, which was developed in northwestern France, is the most numerous of the draft horses in the United States. It should be either black or some variety of gray in color. Most



At the top the All American Percheron stallion Enchanter owned by Pine Tree Farms McHenry Illinois selected by experts in 1937 and 1938 as representing the most nearly model Percheron type (weight 2000 pounds height at withers 16 h $2\frac{1}{2}$ bone below knee $10\frac{1}{2}$). At the bottom Julia the International grand champion mare in 1939 owned and shown by Conner Prairie Farm Noblesville Indiana selected as the All American model Percheron mare in 1939



At the top the noted Belgian stallion Jay Farceur, three times International grand champion owned by H C Horneman, Danville, Illinois. At the bottom, Aida de Bierbeck 20062, twice International grand champion Belgian mare, in 1937 and 1939, owned by Sugar Grove Farm, Aurora, Illinois.



Shire filly Chenies Mavis, 1st and female champion, Royal Show, 1939, owned by W. J. Thompson, Croyland, Woodham Road, Woking, England. (Courtesy *The Farmer and Stock-Breeder*, London)

grays change to white with advancing age. Chestnut, sorrel, and bay are not recognized as Percheron colors. The breed is medium as to type and size, and possessed of more than average spirit and intelligence. According to the adopted report of a special committee of the 1940 National Conference of Judges and Breeders of Percherons, mature stallions in good condition should weigh 1900 to 2100 pounds, and measure in height at the withers 16 to 16-3 hands. The standard adopted for mature mares in good condition is a weight of 1750 to 1900 pounds, and a height of 16 to 16-2 hands. The best Percherons represent a near ideal combination of draft power with an active disposition, good action, and quality. Too many individuals still are criticized for slack middles, light bone and muscle, and small feet.



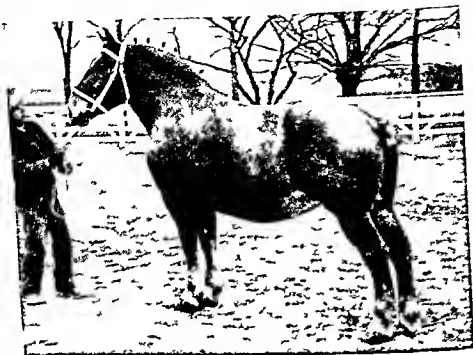
The 1931 International grand champion Clydesdale stallion Lochinvar, owned by J. E. Falconer, Goven, Saskatchewan, Canada.

BELGIAN

This breed, which is native to Belgium, is about the same in weight as the Percheron, but in type is more compactly built and more muscular in development. He is noted for his good middle, easy feeding traits, and quiet disposition. The preferred colors in this country are sorrel—with flaxen mane and tail—chestnut, and roan, although browns and bays also are standard. The old-time Belgian was sluggish in temperament and lacked style and quality. The modern representatives, as bred in America, on the other hand, show marked improvement in these particulars. The rapid growth in popularity which this breed has enjoyed in recent years is to be attributed to the breeders' success in retaining the muscle and substance of the old type and adding to it bigger feet, more quality, better action, and more pleasing lines.

SHIRE

The Shire is the national draft horse of England, noted for his great weight and draft power. They are one hundred



Ranksborough Star grand champion Suffolk mare International 1938

pounds or more heavier than the Percheron or Belgian, have more rugged bone, and much more feather (hair) on their legs. Bay with white points is the desirable color, although browns, blacks and grays are not uncommon. The breed has never been popular with the American farmer, chiefly because of the excessive hair on the legs and their lack of spirit.

CLYDESDALE

In color this breed of Scotch draft horses is much the same as the Shire. In many other respects, however, it is quite different. It is not quite so heavy as the Percheron or Belgian. The breed is famous for its wide feet, clean quality of bone and straight action. They are active in disposition and easy to handle. Many specimens are slim in their middle, light in their bone and lack muscle. The feather on their legs, although finer of quality than in the Shire, has not helped their popularity with the American farmer.

SUFFOLK

This is a compact, well-made draft horse, chestnut in color, and English in origin. It is the lightest of our draft breeds. Mature stallions in show condition should weigh 1800 to 2000 pounds, and mares, 1650 to 1750 pounds. They are clean legged, well muscled, and active. Many regard them as possessing to an unusual degree the particular combination of qualities most desirable for farm draft work.

CHAPTER 7

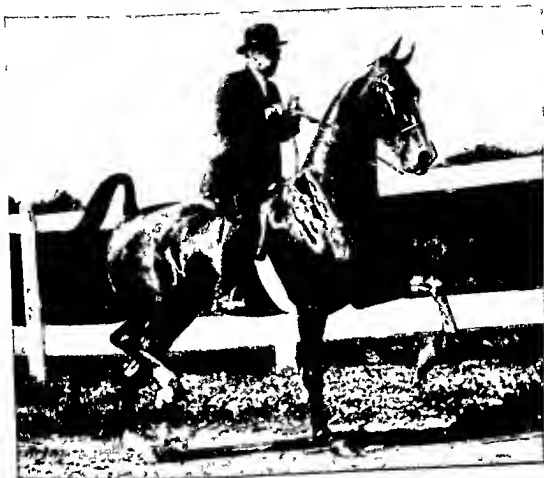
The Saddle Horse

THE CREATION of safe, attractive bridle paths and riding trails in the extensive parkways about our cities is evidence of a growing interest in riding for recreation and pleasure. The saddle horse promises, therefore, to maintain if not improve upon his present strong position in the public's esteem. This is especially true of the walk trot-canter horse.

THE SADDLE TYPE

The true saddle type is best exemplified in the modern American Saddle Horse. This breed is strictly of American origin, developed by selection from a foundation mainly of Thoroughbred and native riding stockbreeding. He should have stylish carriage, beautiful lines, outstanding quality or finish, and intelligence. Ability to carry weight easily at the required gaits, along with reasonable speed and stamina, are essential. Deep oblique shoulders, fine withers, a short, strong back, and sloping pasterns are points of conformation of special importance.

The three-gaited horse performs at the walk, trot, and canter. In the show ring style dictates that the mane of the three-gaited horse be clipped short. The five-gaited horse, in addition to performing at the walk, trot, or canter, must do the rack and one of the two slow gaits—the fox trot or running walk. Five gaited horses are shown with flowing mane and full length tail. The Tennessee Walking Horse is characterized by special natural ability to perform the running walk gait.



Fiery Crag, bay gelding, 7 years old, 15 3 h, rated by expert judges as one of the three outstanding walk-trot-canter horses of all time, owned by Dixiana Farm, Lexington, Kentucky. Charles C. Dunn up. (Photo by Haas, New York)

GENERAL POINTS OF THE SADDLE HORSE

In studying the characteristics of a good saddle horse, consideration should be given to the following general features: (1) size and weight, (2) conformation, (3) quality and refinement, (4) intelligence and temperament, and (5) action. These are discussed briefly below. In show-ring judging, decisions are determined chiefly by differences in ability to do the gaits, conformation, beauty, and manners.

Size and weight. Three-gaited horses may vary in height from 14-3 to 16 hands and in weight from 850 to 1200 pounds, depending on the weight of the rider.

Conformation. The distinctive features of good saddle-horse



The famous Tennessee Walking horse Haynes Peacock with his owner J L Haynes up A chesnut gelding sired by Wilson s Allen and out of a trotting bred mare, he was winner of the Baton Rouge World Challenge Show champion at the Southwestern Exposition and Horse Show at Fort Worth, 1940, and blue ribbon winner at National in Madison Square Garden, 1939 (Courtesy Dept. of Conservation State of Tennessee)

conformation are a short, strongly-coupled back, round ribs deep, oblique shoulders, rather high, fine withers, level croup, full quarters, long, sloping pasterns, and a long, clean throated neck He is shorter from the withers to his tail, compared with his height, than other horses Although somewhat upstanding, he does not appear leggy He is full made, smoothly turned, and fairly muscular Every line from his long, gracefully arched neck to his smartly carried flowing tail is a curve, the lines of his neck, shoulders, middle, and hindquarters all blending smoothly together in a manner to give symmetry and great beauty

Quality and refinement. Every line and feature of the high class saddle horse reflects quality The head is lean and sharply chiseled, the ears are pointed, of medium size, and alert The mane and tail are silky, the coat is soft and fine. The skin is

thin and fits with glovelike tightness over the joints and tendons, giving a sharpness to the lines and a clear definition to each detail. The horn of the feet is of the toughest quality. For the best service, however, quality and refinement should not be emphasized to the point where a reasonable amount of substance is likely to be sacrificed.

Intelligence and temperament. The good saddle horse has good manners, is easy to control, and does his work with willingness and spirit. Without intelligence, animation, and good temper, the most skillful training can accomplish little in developing a satisfactory mount, either for pleasure or business use. The horse with life and spirit that has saddle-horse conformation and quality will show naturally a stylish carriage of both head and tail, be able to execute the required gaits with greater precision, and wear longer.

Action. The three gaits of the walk-trot-canter horse should be performed with ease and grace. It is important that the action be true and the step light and springy. There should be sufficient flexion of the hocks and lift to the knees, yet extremely high or extravagant action is not desired. The canter should be collected and performed without apparent effort, at a uniform pace, and with either lead.

SHOW CLASSIFICATION FOR THREE-GAITED SADDLE HORSES

The classification shown below is more or less typical of those maintained at the state fairs.

1. Mare or gelding, 15 hands and under
2. Mare or gelding, over 15 hands and not exceeding 15.2 hands
3. Mare or gelding, over 15.2 hands
4. Combination mare or gelding¹
5. Model, 3-gaited mare or gelding, two years old or over

¹ A "combination horse" is a three-gaited saddle horse shown first in harness hitched to an appropriate vehicle then unhitched in the show ring and exhibited under the saddle. A "fine-harness horse" is a five-gaited saddle horse shown first in harness then under the saddle.

ELEMENTS OF LIVESTOCK JUDGING

Score Card for the Saddle Horse

SCALE OF POINTS	STANDARD OR PERFECT SCORE
GENERAL APPEARANCE—12 PER CENT	
1 Height	
2 Weight	
3 Form (Close but not full made, deep but not broad, symmetrical)	4
4 Quality (Bone clean, dense, fine, yet indicating substance, tendons and joints sharply defined, hide and hair fine, general refinement, finish)	4
5 Temperament (Active, disposition good, intelligent)	4
HEAD AND NECK—8 PER CENT	
6 Head (Size and dimensions in proportion, clear-cut features, straight face line, wide angle in lower jaw)	1
7 Muzzle (Fine, nostrils large, lips thin, trim, even)	1
8 Eyes (Prominent orbit, large, full, bright, clear, lid thin, even curvature)	1
9 Forehead (Broad, full)	1
10 Ears (Medium size, pointed, set close, carried alert)	1
11 Neck (Long, supple, well crested, not carried too high, throttle well cut out, head well set on)	3
FOREHAND—22 PER CENT	
12 Shoulders (Very long, sloping, yet muscular)	3
13 Arms (Short, muscular, carried well forward)	1
14 Forearm (Long, broad, muscular)	1
15 Knees (Straight, wide, deep, strongly supported)	2
16 Cannons (Short, broad, flat, tendons sharply defined, set well back)	2
17 Fetlocks (Wide, tendons well back, straight, well supported)	2
18 Pasterns (Long, oblique—45 degrees—smooth, strong)	2
19 Feet (Large, round, uniform, straight, slope of wall parallel to slope of pastern, sole concave, bars strong, frog large, elastic, heels wide, full, one third height of toe, horn dense, smooth, dark color)	5
20 Legs (Direction viewed from in front, a perpendicular line dropped from the point of the shoulder should divide the leg and foot into two lateral halves, viewed from the side, a perpendicular line dropped from the tuberosity of the scapula should pass through the center of the elbow joint and meet the ground at the center of the foot)	4

SCALE OF POINTS	STANDARD OR PERFECT SCORE
BODY—12 PER CENT	
21 Withers (High, muscular, well finished at top, extending well into back) 22 Chest (Medium wide, deep) 23 Ribs (Well sprung, long, close) 24 Back (Short, straight, strong, broad) 25 Loin (Short, broad, muscular, strongly coupled) 26 Flank (Deep, full, long, low underline)	3 2 2 2 2 1
HINDQUARTERS—31 PER CENT	
27 Hips (Broad, round, smooth) 28 Croup (Long, level, round, smooth) 29 Tail (Set high, well carried) 30 Thighs (Full, muscular) 31 Stifles (Broad, full, muscular) 32 Gaskins (Broad, muscular) 33 Hocks (Straight, wide, point prominent, deep, clean cut, smooth, well supported) 34 Cannons (Short, broad, flat, tendons sharply defined, set well back) 35 Fetlocks (Wide, tendons well back, straight, well supported) 36 Pasterns (Long, oblique—50 degrees—smooth, strong) 37 Feet (Large, round—slightly less than in front—uniform straight, slope of wall parallel to slope of pastern, sole concave, bars strong, frog large and elastic, heels wide, full, one third height of toe, horn dense, smooth, dark color) 38 Legs (Direction viewed from the rear, a perpendicular line dropped from the point of the buttock should divide the leg and foot into lateral halves, viewed from the side, this same line should touch the point of the hock and meet the ground some little distance back of the heel a perpendicular line dropped from the hipjoint should meet the ground near the center of the foot)	2 2 2 2 2 2 5 2 2 2 4 4
WAY OF GOING—15 PER CENT	
39 Walk (Rapid, flat footed, in line) 40 Trot (Free, straight, smooth, springy, going well off hocks, not extreme knee fold) 41 Canter (Slow, collected, either lead, no cross canter)	5 5 5
Total	100

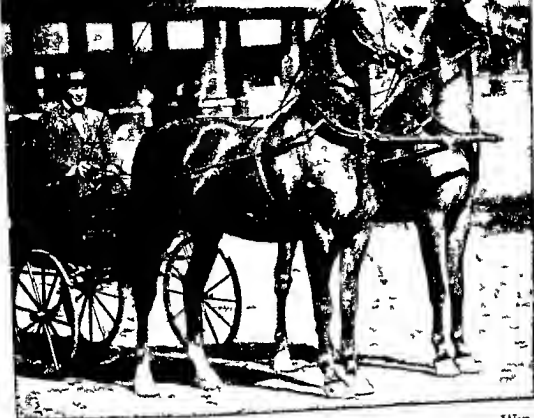


The Thoroughbred or English running horse War Admiral, by Man of War, with Kurtzinger up, winner of the Chesapeake Stakes at Pimlico, the Santa Derby, and the Kentucky Derby, owned by Glen Riddle Farm. (Morgan Photo Service, New York)

6. Mare or gelding, state owned and ridden by amateur owner
7. Heavyweight mare or gelding, over 15.2 up to 200 pounds
8. Mare or gelding ridden by lady
9. Three-gaited championship stake, 15.2 hands and under
10. Three-gaited championship stake, over 15.2 hands
11. Three-gaited grand championship stake, over 14.2 hands

The Thoroughbred, or English running horse, is of the saddle type but modified by the demands of the race course for extreme speed and stamina. They vary in height from 15-3 to 16-1 hands and in weight from 900 to 1050 pounds, although many do not come within these limits. Bay, brown, chestnut, and sorrel are the most common colors.

Much of the quality, intelligence, speed, and stamina which is possessed by the Thoroughbred and American Saddle Horse,



A pair of trotters illustrating the roadster or light harness type. Winners of first prize International owned by Geo T Peak, Winchester, Illinois

as well as by the other light legged breeds, must be credited to the original influence of the Arabian breed. This horse of ancient lineage was the original saddle type and today sets the standard in intelligence, beauty, and quality. Arabians are bay, gray, and chestnut in color, and in size usually weigh from 800 to 1000 pounds.

THE ROADSTER OR LIGHT HARNESS TYPE

This type is adapted to the work of pulling a light load at a rapid pace, and is represented in America chiefly by the American Trotter (and Pacer) or Standardbred. It is built on lines which suggest speed and stamina. Like all the light legged breeds, the Standardbred is more nervous in temperament than the draft horse and has harder quality of bone and tougher feet. He should be deep-chested and especially well muscled in the region of the hindquarters. His action should be true and frictionless. Horses of this breed most commonly measure 15 to 16 hands in height, and weigh in racing condition 850 to 1150 pounds. Speed, with stamina to go the standard track distances, is now the principal objective sought in their breeding.



Hackney pony, Harviestoun Eva, owned by Mrs. Lewis A. Park, Sewickley, Pennsylvania. (Photo by Haas, New York)

The Morgan is more compact and muscular in build and smaller in size than the Standardbred. The breed is composed of the descendants of the horse Justin Morgan, foaled in 1789, and stood chiefly in Vermont. It is in reality a stout-made combination roadster and saddle horse noted especially for its fine disposition, toughness, and endurance. Bays and browns are the common colors. The representatives of the breed are very limited in numbers.

THE HEAVY-HARNESS OR COACH TYPE

Compared with the roadster, horses of this type are fuller made, have more beautiful lines, more stylish carriage, and higher action. In weight they usually run from 100 to 300 pounds heavier, although it varies widely. Their use is restricted to pleasure driving, which is limited, and to horse-

show competition. The most popular breed is the Hackney, of English origin. The other breeds, of which each is represented by limited numbers, are the German Coach, French Coach, Cleveland Bay, and Yorkshire Coach.

PONIES

The pony is not a distinct type. They are miniature representatives of the light-legged breeds just named. The Hackney is generally of the harness type, and beauty of form and high flashy action are desired. The Welsh and Shetland represent a combination type suitable both for riding and light-harness driving. The three breeds differ in size. The Shetland should not exceed 42 inches or 10-2 hands in height, the Welsh should not be over 12 hands, while the Hackney should not exceed 14 hands.

Most polo ponies are of grade Thoroughbred breeding, usually three-quarter-bloods, from 14-3 to 15 hands in height and of a weight from 850 to 1000 pounds. The best performers possess unusual intelligence, quick speed, and great endurance.

CHAPTER 8

Judging Mules

THE MULE is a hybrid, the result of mating the mare with the jack. The opposite cross, the stallion on the jennet, produces the hinny. Like most hybrids, the mule generally is not fertile.

Compared with the draft horse, the mule in type is not so deep, wide, compact, or massive. He is longer and narrower of body, has lighter bone, and smaller, more narrow feet. He is less nervous in temperament than the horse, is tougher, stands hot weather better, and endures hardships and rough treatment with greater indifference. Unsoundnesses are less common in mules than in horses.

MARKET CLASSES OF MULES

On the market, mules are classified according to their weight and type, or the kinds of work they are best qualified to perform. The old classification as reported by Obrecht,¹ shown below, is still in use although changes in demand have effected some abbreviation in its form.

<i>Class</i>	<i>Height in Hands</i>	<i>Weight in Pounds</i>
Draft	16-17½	1200-1600
Farm	15½-16	900-1250
Sugar	16-17	1150-1300
Cotton	13½-15½	750-1100
Mining	12-16	600-1350

¹ R. C. Obrecht Illinois Agricultural Experiment Station Bulletin 122.



Grand champion horse mule, American Royal, 1937, owned by Ed. Frazer, Drexel, Missouri.

The type represented by these different classes is much the same, since the work they do is of a draft nature. Mining mules, as the name suggests, work either in the pit or at the surface of mines. The cotton mule is of light build and employed chiefly in the cotton fields of the South. The sugar mule is heavier, more smoothly turned than the cotton mule, and is found on the southern sugar plantations. Farm mules vary considerably in weight and quality and are used for general agricultural work. They are smaller and less uniform in their type than the draft mules. Draft mules are adapted to heavy hard work in the fields and construction camps.

Although the mule and draft horse differ in temperament and appearance, the same procedure and principles apply in judging them. The score card given on pages 244 and 245 for the draft mule considers the same points as those included in the draft horse score card, and the terms used to describe the ideal are much the same in both. With the appropriate change

in the weight and height, the following score-card description will serve as a standard also for any of the other classes of mules.

Score Card for the Draft Mule

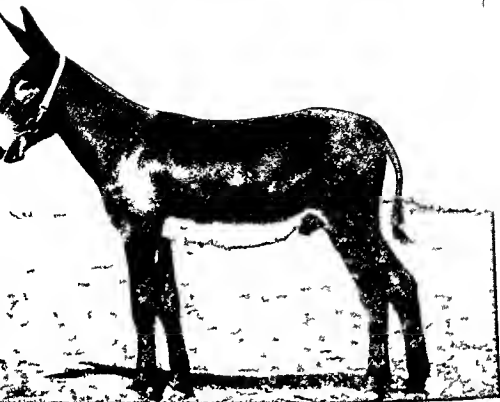
SCALE OF POINTS	STANDARD OR PERFECT SCORE
GENERAL APPEARANCE—19 PER CENT	
1. Height (16 to 17 hands, estimated -----, actual -----)	
2. Weight (1200 to 1600 pounds)	6
3. Form (Deep, fairly wide, and low-set, closely coupled, strongly muscled, compact, symmetrical)	5
4. Quality (Bone clean, tendons and joints clearly defined, coat fine)	5
5. Temperament (Stylish carriage, energetic yet gentle disposition)	3
HEAD AND NECK—9 PER CENT	
6. Head (Rather large, intelligent, clearly defined features)	2
7. Ears (Long, pointed, alertly carried)	1
8. Eyes (Large, full, clear)	2
9. Lower jaw (Strong, clean, angle wide)	1
10. Muzzle (Nostrils large, free from discharge, lips even and firm)	1
11. Neck (Long, crested, strong, throatlatch clean, well carried)	2
FOREQUARTERS—21 PER CENT	
12. Shoulders (Deep, sloping, well muscled, withers smooth and well back)	3
13. Arm (Strongly muscled)	1
14. Forearm (Broad, strongly muscled)	2
15. Knees (Straight, broad, deep, clean-cut, well supported)	1
16. Cannons (Bone of ample size, broad, short, flat, clean, tendons well back)	2
17. Fetlock (Straight, broad, clean)	1
18. Pasterns (Medium length, sloping, strong, clean)	2
19. Feet (Medium size, shapely, wide deep heel, straight, smooth walls, tough horn, sole concave, bars strong, frog elastic)	5
20. Set of forelegs (Straight and squarely placed, viewed from in front, a perpendicular line from the point of the shoulder to the ground should bisect the knee, cannon, pastern, and foot, viewed from the side, a perpendicular line from the center of the shoulder joint should meet the ground at the center of the foot)	4
BODY—12 PER CENT	
21. Back (Broad, straight, strong, well muscled)	3
22. Loins and coupling (Short, broad, strong)	3
23. Ribs (Deep, round, full, close, chest deep and wide)	4
24. Underline and flanks (Low)	2

SCALE OF POINTS	STANDARD OR PERFECT SCORE
HINDQUARTERS—27 PER CENT	
25 Hips (Broad, smooth, level)	1
26 Croup (Long, broad, full, muscular, not steep)	2
27 Tail (Well set, stylishly carried)	1
28 Quarters or thighs (Deep, full, strongly muscled)	3
29 Gaskin (Broad, strong muscling)	2
30 Hocks (Correctly set, broad, flat, deep, clean, hard)	5
31 Cannons (Bone ample size, broad, short, flat, clean, tendons well back)	2
32 Fetlocks (Straight, broad, clean)	1
33 Pasterns (Medium length, sloping, strong, clean)	2
34 Feet (Medium size, shapely, wide deep heel, straight, smooth walls, tough horn, sole concave, bars strong, frog elastic)	4
35 Set of hind legs (Correctly set, viewed from behind, a perpendicular line from the middle point of the buttock to the ground should bisect the hock, cannon, pastern, and foot, viewed from the side, when the cannon is perpendicular to the ground, the back line of the cannon when extended should just touch the rear of the buttock)	4
ACTION—12 PER CENT	
36 Walk (Long free, straight, quick, springy)	8
37 Trot (Straight, free, high, energetic)	4
Total	100

JACKS

The best jacks measure from 15-3 to 16 hands in height, and weigh from 1050 to 1150 pounds. They should be deep, wide, and long of body, with a straight back, strong coupling, and heavy in their bone. A reasonable amount of quality and spirit is desirable. The preferred color for jacks is black with white points, the points referring to the muzzle, around the eyes, and the undersurface of the body. For producing the type of mule of greatest service in the South, sound mares with quality should be used which possess some draft blood and weigh close to 1100 pounds¹

¹ Paul F. Newell and C. J. Goodell, Mississippi State College Extension Bulletin 95, 1938.



Champ on jack Kansas State Fair 1932

SHOW CLASSIFICATION FOR JACKS JENNETS AND MULES

Jacks and Jennets

- 1 Jack 3 years old and over
- 2 Jack under 3 years
- 3 Jennet 3 years old and over
- 4 Jennet under 3 years
- 5 Champion jack
- 6 Champion jennet

Mules

- 1 Mare mule 4 years old and over
- 2 Mare mule 3 years old and over cotton class 15½ hands and under
- 3 Mare mule 3 years old and under 4
- 4 Mare mule 2 years old and under 3
- 5 Horse mule 1 years old and over

6. Horse mule, 3 years old and over, miner's class, 15½ hands and under
7. Horse mule, 3 years old and under 4
8. Horse mule, 2 years old and under 3
9. Mule, 1 year old and under 2, either sex
10. Mule colt, either sex
11. Five mules, any age, owned by one exhibitor
12. Champion mule
13. Pair of mules, 4 years old or over
14. Pair of mules, 3 years old and under 4
15. Pair of mules, 2 years old and under 3
16. Pair of mules, 1 year old and under 2
17. Pair of mule colts
18. Pair of mules, any age, shown in harness
19. Pair of matched mules
20. Best 10 head

CHAPTER 9

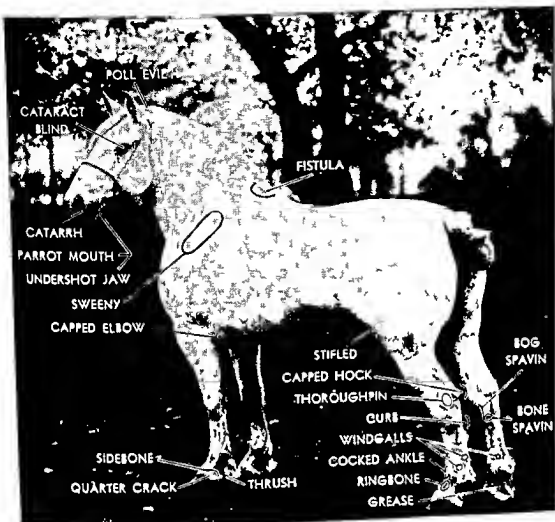
Unsoundness; Determination of Age of Horses

A SERIOUS study of the common unsoundnesses of the horse should not be undertaken until after the student has acquired a due appreciation of the normal structures and functions. He must know the normal or ideal before he is qualified to recognize and appreciate the abnormal.

COMMON UNSOUNDNESSES

Definition Technically speaking, and as defined by the veterinarian, any abnormal deviation in structure or function constitutes an unsoundness. In practice however, it is customary to regard an unsoundness as any deviation in form or function which interferes with the usefulness of the individual. Those abnormalities which do not affect the serviceability of the horse, such as wire-cut scars, mild cases of capped elbow or hock, splints, windpuffs, slightly filled hocks, etc., are blemishes. They are unsightly, but ordinarily do not affect the ability of the horse to do his work. On the other hand, such abnormalities as broken wind, defective vision, well-developed spavin, sidebones that cause lameness, stringhalt, a bad vice, etc. interfere with a horse's usefulness and are serviceable unsoundnesses.

Causes of unsoundnesses. Most unsoundnesses are the result of some inherent weakness, such as a defect in the conformation, a lack of quality, or to insufficient quantity or substance of the part or of the structures closely related to it. These constitute predisposing causes, largely hereditary, which will often



The location of some of the unsoundnesses of the horse

produce unsoundness under the wear and strain of ordinary work. Unsoundnesses may result also, regardless of the original strength and soundness of the structure, from accident and injury, from unnatural or severe strain or labor, from disease, or a lack of proper care, feeding, and sanitation. These represent exciting causes. Generally, unsoundnesses are the result of a combination both of predisposing and exciting causes.

Sidebone. This is one of the most common unsoundnesses of the draft horse, and is shown by a prominence at the hoof head just inside the coronet toward the heel. It is the result of an ossification (turning to bone) of the lateral cartilage, and on pressure with the thumb is hard and unyielding. The cartilage may be wholly or only partly ossified, prominent or



Sidebone (Courtesy Mich State College Ext. Bull. 197)

inconspicuous. In the case of incomplete ossification, it is customary to refer to the horse as being "a little rough" or "a bit hard" at the hoof head. The effect of the bony growth is to destroy the normal elasticity and shock-absorbing capacity of the foot, which may in turn result in lameness. It is common on the front feet only and is more likely to develop on the outside than the inside of the foot. Horses that stand and move toed in appear most likely to develop the unsoundness.

Bog spavin. This is a soft, fluctuating swelling or enlargement which occurs in the natural depression of the inside-front area of the hock and just below the inside upper bony prominence. The swelling is due to the presence of synovial fluid or

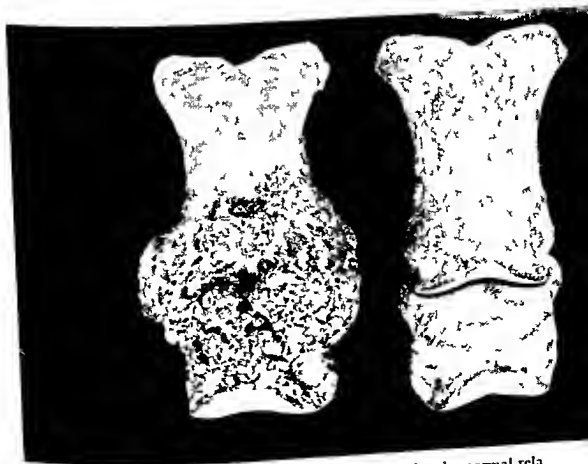
"joint oil," resulting from inflammation involving the synovial sacs and capsular membranes. A boggy condition of the hocks is common among heavy horses, especially individuals lacking in quality.

Thoroughpin. This is a soft, rounded swelling which appears above and back of the hock joint and in front of the large tendon. It can be pressed from side to side, hence the name. It is the same fundamentally as bog spavin and involves a more or less permanent distention of the synovial sheaths and joint capsules due to inflammation and hypersecretion of joint fluid. This condition in judging parlance is referred to as "filled in the hocks."

Windgalls. These appear as soft, puffy enlargements along the tendons and cannon just above the fetlock joint. They represent a more or less permanently swollen condition of the synovial sacs with joint oil and are similar in nature to bog spavin and thoroughpin. They cannot be classed as serviceable



At the right a normal foot or coffin bone At the left, the result of the ossification of the lateral cartilages, showing sidebones



Front view of long and short pastern bones At the right, the normal relationship At the left, extensive bone deposit at the joint, a ringbone



Top left Bog spavin. Top right A, curb B cocked ankle Bottom left A bone spavin or jack. Bottom right Inside and slightly front view of the hock joint, showing extensive ossification or bone spavin. (Top pictures by courtesy Mich. State College Ext. Bull. 197)

unsoundnesses unless they cause lameness but are objectionable blemishes and usually associated with a lack of quality

Stocked legs. This is a swollen condition affecting the leg

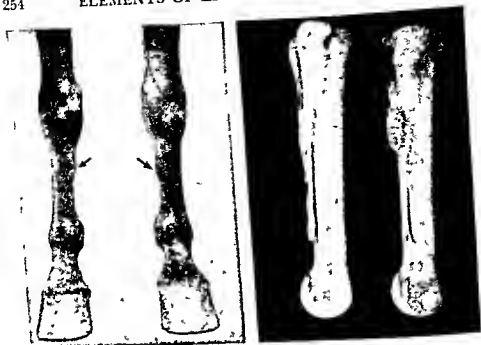
from the knee and hock to the foot. Generally it is of a temporary character and most often observed in horses after standing in the stall following a period of regular work. It is most common in coarse-legged horses of lymphatic temperament. It is not an unsoundness unless it becomes permanent.

Curb. This abnormality is shown as a swelling or prominence on the posterior or back border of the base of the hock. It can be detected most easily with a side view at right angles to the set of the hind leg. The prominence is due to inflammation and the thickening of the sheath of one of the important tendons at this point. It is much more common in light than in draft horses. Hocks that are thick, shallow, and set in crooked legs predispose to the development of curb when the part is subjected to any unusual strain, such as occurs in jumping, severe exertion in heavy pulling, etc. It usually does not cause lameness.

Bone spavin. This is a serious unsoundness, but much less common in draft than in light-legged horses. It represents a bony enlargement at the base and inside-forward border of the hock and can best be detected by comparing simultaneously the inside lines of both hocks from a squatting position just in front of the horse, looking between the forelegs. It is most common in hocks of defective conformation and results generally from strain. It causes lameness, which is acute when the horse is cold. When the bone deposit is on the outside border of the hock it is called a jarde.

Ringbone. This unsoundness is rarely found in draft horses. It is represented by a bony deposit on the front border of the rear pastern, involving the long and short pastern bones. It seriously interferes with the normal movements of the pastern and foot and causes severe lameness.

Splint. Since a splint rarely interferes with the usefulness of the horse, it is to be regarded as a blemish rather than an unsoundness. It is shown by a knotlike prominence on the upper inside back border of the front cannon, the result of a bony deposit at a point along the line of contact of the cannon and splint bone. Yearlings sometimes show splints which later are absorbed and disappear with maturity.



Left: Front view of forelegs, showing splints. *Right:* Inside view of front cannon bones. The one at the left is normal, the one on the right shows a large splint. (Left picture by courtesy Mich. State College Ext. Bull. 197)

Cocked ankles. An extreme case of cocked ankle, or "knuckling-over," constitutes a serious unsoundness because it practically incapacitates the horse. Lesser degrees, such as is designated by "up on the ankles," are also serious since they result in a short, stilted stride. Horses with short, upright pasterns are the ones most likely to develop the trouble with age and hard use. It appears behind much more often than in front. Old horses tend to knuckle-over in the fetlock joint as a result of the shortening or natural loss of elasticity in the back tendons of the leg. When the cocked ankle of the supporting leg settles down, it is often accompanied by an audible snap.

Buck knee, calf knee, etc. Extreme cases of buck knee or "over on the knees" and calf knee or "back on the knees" constitute unsoundnesses and should result in disqualification in the show ring. Lesser degrees must be judged according to

their importance in affecting the action, stability, and usefulness of the horse.

The same is true also of other abnormalities in the set of legs and pasterns, such as being knock-kneed, bowlegged, pigeon-toed, splayfooted, cow-hocked, bandy-legged, and set, or sickle-hocked.

Heaves. This is a respiratory disease, the result of injury or rupture of the lining membrane of the air vesicles of the lungs. It is characterized by the "double lift" when the air is expelled in breathing, by wheezing after exercise, and by a short, hollow cough. It is a serious unsoundness and renders the horse unfit for taxing work.

Roaring and whistling. The general term "thick in the wind" is often used when referring to horses that roar or whistle. It is an unnatural sound made by the horse on inspiration, more or less marked following a sharp run. The noise is produced by some obstruction in the air passages, such as paralysis of some of the muscles of the larynx or a thickening of the membranes. A severe sore throat sometimes causes whistling temporarily. Most roarers will grunt when given a sharp poke in the back ribs. Defects of the wind are fairly common and among the most serious unsoundnesses.

Moon blindness. This is a serious disease of the eye, believed to be of germ origin, marked by sensitiveness to light, inflammation, and a watery discharge, followed by clearing, and then reappearance of the symptoms at intervals of a few weeks. Following a few attacks the eye has a cloudy, blue appearance and may be rendered permanently blind. Usually both eyes are not affected at the same time. Its manner of development bears no relation to the phases of the moon.

Cataract. An advanced stage of this disease is characterized by a "dead fish" appearance of the eye and blindness. It is a



Sheep or calf knees or back on the knees.

disease in which the transparent lenses of the eye are progressively converted into an opaque mass. A predisposition to it is no doubt hereditary. Cataracts frequently develop following moon blindness.

Sand crack. This is a splitting of the horn of the hoof from the coronet or hoof head downward. It is called toe or quarter crack, depending on its location. It may be caused by some injury to the secreting horn tissues of the coronet. A severe crack usually causes lameness and should be considered an unsoundness. Small cracks which start at the ground are not so important, but should be regarded as evidence of a soft, shelly, and brittle texture to the horn.

Quittor. This is a deep-seated running sore at the coronet or hoof head involving usually the soft tissues beneath the hoof wall. The exciting cause is most often an accidental injury to the coronet. It constitutes an unsoundness.

Thrush. The presence of this ailment is an ill smelling discharge from the cleft of the frog, the result of inflammation of the sensitive frog. It is most common in the forefeet and generally develops as a result of insanitary, filthy conditions, lack of proper attention to the foot, and bad shoeing.

Grease. Grease heel or scratches is a troublesome, mangy like irritation of the skin in the region of the heels, fetlocks and cannons, usually of the hind legs. Coarse legged, thick skinned horses seem to be predisposed to it. Offensive, running sores may develop if appropriate treatment and good sanitation are not adopted.

Fistula. This is a deep-seated abscess in the region of the withers, the result of a severe bruise or the constant irritation produced by an ill fitting collar or harness. Successful treatment consists in thorough drainage, the use of antiseptic lotions, and the prevention of infection.

Poll evil is the same in nature as fistula of the withers, but is located on the poll of the head. It is caused by a blow or injury, or it may arise from irritation due to the chafing of the bridle or halter.

Sweeney. This condition is evident when the muscles covering the shoulder blade become absorbed or atrophied, thus

giving to the shoulder a bare, flat appearance. It is believed to result most frequently from injury to the motor nerves of these muscles caused by ill-fitting collar or harness. It constitutes an unsoundness.

Capped hock. This is shown by a prominence at the point of the hock and usually consists of nothing more than a large callus or a thickened condition of the skin. In extreme cases the tissues beneath the skin may become involved. It is caused in most cases by repeated bruises. It is rarely more than a blemish.

Capped elbow. This is the same in nature as the capped hock. It is a thickening of the skin at the point of the elbow, caused by the bruising of the part by the calks of the forefoot when the horse is lying down. It may develop into a tumor or running sore, in which case it is called a shoe boil.

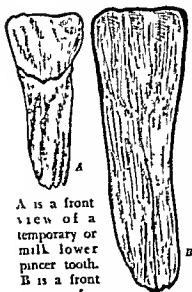
Founder or laminitis. A bad case of founder renders a horse unfit for hard service thereafter. The severe inflammation and fever of the forefeet which characterizes the early stages of the affliction so affects the secreting tissues of the wall that a club-foot with turned up toe and ridgy hoof wall is the permanent result.

Stringhalt. The evidence of this is an abnormally high lifting of the hock, with a spasmodic jerk, when walking or trotting. It is the result of some nervous disorder and is most common in high-strung horses. A tendency to crampiness or stringhalt is best shown by backing or turning the horse sharply. Evidence of this affliction is sufficient grounds for disqualification.

Stifled. A horse is said to be stifled when the knee pan or patella has been knocked out of place, in which condition the horse is practically helpless.

Parrot mouth and undershot jaw. In parrot mouth the lower jaw is shorter than the upper jaw; in the undershot jaw it is longer than the upper. In neither case do the incisors come into contact. Such horses cannot graze or eat corn on the cob. Either should be regarded an unsoundness.

Vices and bad habits. Among the bad habits or vices of the horse may be mentioned: cribbing, windsucking, halter pulling,



A is a front view of a temporary or milk lower pincer tooth. B is a front view of a permanent lower pincer tooth. The milk tooth is smaller, more constricted at the base, whiter, and more flattened from front to back. The permanent tooth is stronger in appearance, and its surface is more colored and deeply lined.

sidebone, curb, filled hock or ankle, bog spavin, thoroughpin, cocked ankle, capped hock, poll evil, fistula of the withers, or umbilical rupture.

balking, switching the tail, stall crowding, weaving, biting, and licking.

Judging unsoundness. A special committee, representing the Second National Conference of Percheron Judges and Breeders,¹ June, 1940, made the following recommendations, which were adopted, respecting the evaluation of specific faults and unsoundnesses. These recommendations should be equally valuable as guide posts in judging the other draft breeds.

Disqualification was recommended in the case of each of the following unsoundnesses. lameness, blindness, ringbone, bone spavin, stifled, stringhalt, or windy, a stallion with one testicle or possessed of abnormal testicles.

Moderate to serious discrimination was recommended for the possession of any one of the following

DETERMINATION OF AGE

To judge with a reasonable degree of accuracy the age of a horse by the appearance of the teeth requires much practice, a knowledge of the structure and position of the teeth, and the time and order in which the milk or temporary teeth are replaced by the permanent ones

First, the student should familiarize himself with differences

¹ Prof. A. L. Harvey, Prof. D. J. Kays, Harry I. Linn, H. G. Eshelman, and R. M. Watt.

between the appearance of a milk and a permanent tooth, and the time and order in which the different pairs of milk teeth are shed or replaced by the permanent teeth, considering the three pairs of incisors only.

When the foal is about one week of age the first or center pair of milk teeth (both above and below) are free from the gums and in contact.

At one month, the first or center pairs of milk teeth have grown longer, and the second or intermediate pairs have emerged but are not in contact.

At five months, the second pairs, above and below, are in contact, and the tables of the first or center pairs show some wear.

At one year, the third or corner pairs of milk teeth, both above and below, have appeared but will not be in contact before about sixteen months of age.

At two years, all three pairs of milk teeth are down in contact, and the tables of all show some wear.

At two and one-half, the first or pincer pairs of milk teeth are shed, and the permanent teeth are just appearing.

At three years, the first or pincer pairs of permanent teeth have grown down and are in contact.

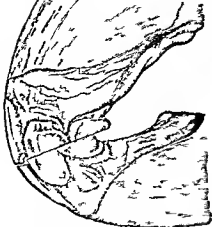
At three and one-half, the second or intermediate pairs of milk teeth are shed, and the permanent teeth have just emerged.

At four years, the second or intermediate pairs of permanent teeth have grown and are usually in full contact.

At four and one-half, the third or corner pairs of milk teeth are shed, and the permanents have made their appearance.

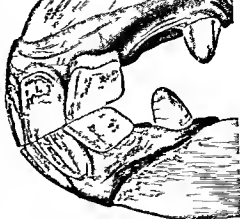
At five years, the corner or third pairs of permanent teeth are in contact, and the tables of the pincers and intermediates show considerable wear. At this time the horse is said to have a full mouth.

At seven years, the tables of all three pairs show considerable wear, and the "nick" or hook on the back border of the upper pair of corner teeth is at its largest prominence. As a result of natural wear and the angle of contact of the



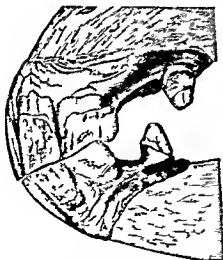
THREE YEARS OLD

Side view of mouth three years of age. The first or pincer milk teeth have been replaced by the permanent ones which will be up and in contact at three. The other pairs are milk teeth.



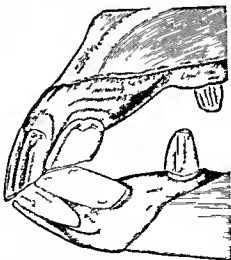
FIVE YEARS OLD

Side view of the five year-old mouth. All three pairs of permanent teeth are in and in wear and the line of contact of the upper and lower teeth is straight. Note the blunt angle formed where the upper and lower teeth meet. Compare with the twenty-one year-old mouth.



SEVEN YEARS OLD

Side view of a seven year-old mouth. Owing to the wear and the angle of contact, there appears at this age the "nick" or saw tooth formation on the back side of the upper corner tooth. At eight years it has practically disappeared.



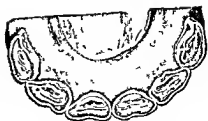
TWENTY-ONE YEARS OLD

Side view of twenty-one year-old mouth. Note the length of the teeth and the sharp angle formed by the meeting of the upper and lower teeth the result of wearing away with advancing age. Compare with side view of the five year-old mouth.



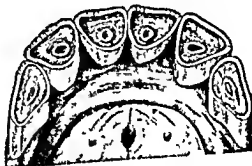
FIVE YEARS OLD

The lower incisors at five years. Note the flattened shape of the tables, the elongated cups and their position on the tables, and that the tables of the corner or outer pair are not fully formed. Compare with eight-year-old mouth. (From *The Exterior of the Horse* by Goubaux and Barrier, published by J. B. Lippincott Co., Philadelphia)



EIGHT YEARS OLD

The lower incisors at eight years. The tables have assumed an oval appearance. The cups are less elongated than at five years, and the dental star has made its appearance as a faint line just in front of the cup (From *The Exterior of the Horse* by Goubaux and Barrier, published by J. B. Lippincott Co., Philadelphia)



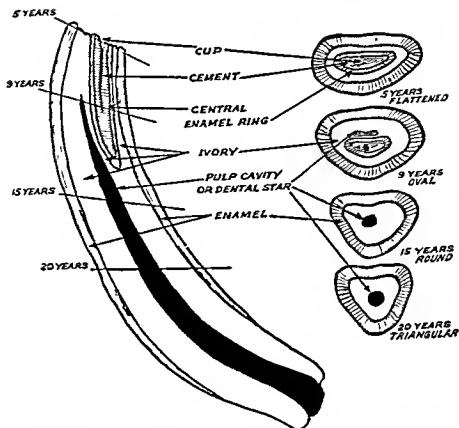
TEN YEARS OLD

Upper and lower incisors at ten years. Due to the wear of the teeth, the tables have become thicker from front to back, the cups have assumed a rounded form and have receded toward the back border of the teeth, and the dental stars have become more conspicuous.



FIFTEEN YEARS OLD

Upper and lower incisors at fifteen years. The tables of the middle or pincer teeth have become triangular in shape, the cups have disappeared, and the dental stars have become rounded and assumed a position back of the center of the tables.



Longitudinal and cross-section views of a permanent lower middle pincer tooth. A study of these drawings will reveal why, with the advancing age of the horse, the angle formed by the meeting of the upper and lower teeth, viewed from the side, becomes more acute, the table or wearing surface of the tooth changes from a flattened appearance at five years to an oval one at nine, a rounded one at fifteen, and a triangular one at twenty; the cup is at first oblong, then round, recedes from the front to the back of the table, and finally disappears, and the dental star appears at about eight and changes in shape from a line to a rounded form at fifteen.

upper and lower sets of teeth, this nick normally disappears at eight to nine years of age.¹

From the age of six on, the estimates must be based on the angle of contact of the upper and lower pincers, the shape of the

¹ Armand Goubaux and Gustave Barner, *The Exterior of the Horse* (Philadelphia: J. B. Lippincott Company).

tables, the presence, position on the tables, and shape of the cups, and the appearance and position of the dental star, all of which progressively change with advancing age because of the normal wearing down of the tables. To understand why these changes occur, the student is advised to study carefully the structure of the tooth as represented in the illustrations on page 262. Frequent practice and repeated reference to the illustrations shown on pages 260 and 261 will help fix in mind these changes and the time of their occurrence.

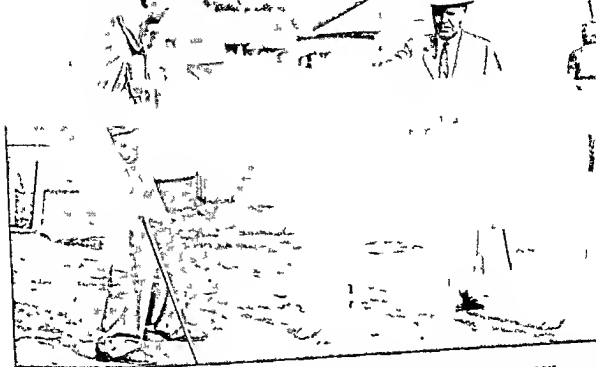
CHAPTER 10

Training Judging Teams

THE STUDENT livestock judging contest is now a prominent feature of practically every county state and national livestock show in America. These contests are the center of much interest and enthusiasm. When properly organized and managed and when reasonable restrictions are observed for the regulation of the training and development of the teams they are a source of great educational good.

Value of judging contests. The training which the student receives while undergoing preparation for judging contests is of great practical value. It is usually sufficiently extensive to insure a knowledge of livestock which it would be impossible to obtain from the school courses alone. The student receives much inspiration and many practical ideas in his trips to farms where purebred livestock is bred. The opportunity of meeting other students in friendly rivalry is a source of much benefit. They are a valuable aid in helping to maintain a more vital and cordial relationship between the school and its patrons. Successful participation in judging contests gives to the school a prestige which is a practical help in its work for the community and state.

Probably the most valuable benefit derived from participation in judging contests however is the impetus which it gives to more thorough work on the part of the student. Opportunity to make a judging team gives purpose stimulates interest, and puts enthusiasm into his schoolwork as a whole. There is probably no kind of school or community activity better cal



George Howey, West Point, Indiana, with his grand champion steer, open class, at the 1938 Indiana State Fair, and the well known livestock judge W. J. Kennedy. This steer was a junior yearling, purebred Angus, weighed 1115 pounds, sold for 62 cents a pound and dressed 66 per cent. "Future Farmers" may point with pride to such an achievement.

culated to train and develop in the student the habit of accurate and systematic observation, of sound judgment, of clear and convincing expression, and to establish the importance of well fixed ideals, than the livestock judging contest.

Suggestions for the development of judging teams. Systematically administered instruction in livestock judging in the school is of first importance as a foundation for the successful development of a judging team. Farm and livestock experience will help, and an extensive training period will partly compensate for deficient school preparation, but neither can take the place of training in scoring and comparing the common market and breeding types.

To compete successfully in a contest, however, a judging team should have, in addition to the regular course instruction, a season of special training or coaching. To prepare for this part of the work, the instructor should work out a general plan of procedure based on full knowledge of all the details of the contest itself and the livestock which may be available for practice judging purposes. He should familiarize himself with the rules gov-



Here we see the desirable contrast in the strength and masculine character of the stallion (right) and the refinement and femininity of the mare (left) as exhibited by Ombrelle and Marceau owned by Ralph L. Smith, Kansas City, Missouri

erning the contest, the time allowed the students for inspecting and placing, the classes on which reasons will be given, whether the reasons are to be written or oral, and the time allowed for writing or giving the reasons orally. A survey should be made to determine the herds available for practice judging and tentative plans made for the outside training trips which will be necessary.

After the student has passed through the preliminary stages of training, every effort should be made to have the practice exercises as nearly as possible the same, as regards the classes of animals judged and the conditions under which the placings are made and reasons given, as the contest itself. This is a matter of first importance. With a good class of energetic students, the final attainment will be determined very largely by the number of such exercises it will be possible to give.

The selection of the team. Competition should be the basis for determining team membership. Those students should be

selected who have proved by their daily records to be best qualified to perform under competitive or contest conditions. Except in rare instances, as in case of sickness, this rule should be closely followed. The final selection of the team and the alternates should not be made too early in the training season. It should be postponed to a time when the best students shall have been definitely identified. Some students develop rapidly, others more slowly. Frequently, students who appear most promising at the outset fail to develop. By taking sufficient time, also, the element of competition with its stimulating effects can be retained and the benefits of the special training distributed to a larger group of students.

The importance of notes. Training in systematic note-taking is an important part of the work of preparation for a contest, especially when the reasons are to be given orally. When as many as nine or even twelve classes are judged before any reasons are given, as in large contests, a good set of notes is indispensable. Such notes, made when the class is being judged, although hastily written and much abbreviated, are of great help later in recalling the class to mind and as a basis for the preparation of an accurate set of reasons.

There are two cardinal points to be kept in mind in this feature of the work: (1) be systematic and follow the order of points for the class when writing the notes; and (2) get down the important differences between the animals of the different pairs.

When time is called for judging, the student should write in his notebook the name or official title of the class. The inspection then commences and, as early as possible, the class should be placed and the placing recorded just below the title of the class. The remainder of the time allowed for inspection should be devoted to getting down the main reasons why the first is placed over the second, the second over the third, and so on. It is well, also, to make note of any peculiarities possessed by any of the animals of the class. For example, in a class of Shorthorn heifers, it is a help in recalling the class to mind later when oral reasons are to be given if it was recorded in the notes that number one was white, number two was red, number three was



A ring of Percheron mares being judged by students trying out for the Purdue judging team.

light roan, and number four was dark roan in color. There are often peculiarities in the type or size of individual animals, also, which will help to recall the class to mind. The general plan or outline followed in making the notes should be the same as that followed when giving the reasons.

GIVING REASONS

There are four essential characteristics of a good set of reasons, whether written or given orally. These are accuracy, completeness, clearness, and proper emphasis.

Accuracy of statement is of first importance. This will depend on the accuracy of the observations and the discrimination exercised in making comparisons. To say, for example, that Number 2 is stronger in the back than Number 1, when the contrary is true, is to commit a most serious error. No matter how persuasively the reasons may be stated, if they are not accurate they are worthless.

Completeness means that no important reason for the placing be omitted. Especially during the early stages of training, this point should be stressed. It is better at first to have the student err on the side of completeness, even at the risk of causing his reasons to appear formal or stilted. The most important aid



Students at an agricultural college, engaged in an annual livestock judging contest. The judging contest excites enthusiasm and promotes interest in farm animals.

in this will be the knowledge which the student has of the important features of the class being judged and the clearness with which he keeps in mind the important points and the order of their presentation.

Clearness of statement is essential. A means to this end is logical organization, always following an outline, and discussing the points in systematic order. A common fault is to describe the good points of the animal placed up, instead of contrasting the two which are being compared. Accurate description is a valuable aid in making comparisons when expertly done and when time is available; but to get the most said of the important differences in the limited time or space available, the plan of direct comparison is to be preferred for beginners. Another difficulty is the temptation to use the word "better" instead of a good descriptive term. There is always a better word than "better." The use of generally understood livestock terms and simplicity of construction are also important aids to clearness of expression.

Proper emphasis means that the important differences and the more fundamental points of the individuals of the contrasting pairs should be given the principal attention. Discussion of trivial points or slight differences should be avoided. Even important points should be touched upon lightly if at all when the difference is small. The main purpose should be to emphasize the important advantages of the one placed up and the important defects of the one placed down, without over-emphasizing either. Accurate observation and good judgment are the only reliable guides in determining which points or differences should be mentioned or emphasized.

Good oral reasons, in addition to possessing the above essentials as to substance, should be delivered in a manner that will make them clear and convincing to the judge. The means to this end are simplicity of phrasing, good enunciation, sufficient force, and appropriate timing or speed.

By simplicity is meant that the statement be direct, to the point, and easy to follow, instead of involved or complicated and, hence, vague and confusing. Good enunciation is important because it adds clearness and force to the reasons without it they lack emphasis and may be even unintelligible. They should be spoken with sufficient force but in a conversational tone. If given in too loud a voice the effect on the judge is disturbing and unfavorable. The employment of too little force is even more serious. Such reasons regardless of any other merits they may possess, will be weak and fail to register with the judge. They should be delivered with just that amount of force which is necessary to express honest conviction. With proper inflection and emphasis such reasons have the ring of sincerity and command and hold the attention. To be clear, easy to follow, and convincing the reasons must also be delivered without haste or sign of hesitation. If the speech is too rapid, the reasons are confused and fail to register; if too slow they lack force and the attention of the judge wavers. When there is an excess of both speed and volume the effect on the discriminating judge is extremely unfavorable. When the opposite extremes are employed and the speech is slow, hesitating and weak, the results are even more unsatisfactory.



Proficiency in judging livestock cannot be acquired without judging practice. Here is shown a group of students studying Southdown type.

The manner, posture, and attitude of the student while before the judge also are very important. His entry, the way he walks up to the judge's table, receives his placing card, how he stands, where he looks, and his general attitude and bearing, weigh heavily in favor of or against him in the grade given. When the student takes a careless posture, hangs his head, when he fumbles with his card, keeps his eyes on his card or feet, and when finished scowls at the judge and is inclined to argue if questioned, the impression made is bad and the reasons bound to suffer a heavy penalty. The student should remember that the judge is always right and that his manner while before him cannot help affecting considerably the estimate placed on his performance. Rather, he should be pleasant, courteous, and business-like. His chief concern should be to impress the judge with the logic of his rating; his next should be to conduct himself in a manner that will not prejudice the judge against him.

GRADING JUDGING PAPERS

The daily judging exercises should be graded carefully. Not only is it necessary to do this for the opportunity which it offers to point out and correct mistakes and as a basis for a reliable

estimate of the student's work, but for the further important reason that it has a markedly stimulating effect on the work of the students. In grading the reasons, the responsibility of correcting bad habits in spelling and grammar also, should not be shirked by the teacher of livestock judging.

In grading a judging exercise where reasons are given, it is customary to give 50 points for correct placing and 50 for perfect reasons. In a class of three animals there are six possible ways of placing them; with four in the class there are twenty-four possible placings. When several different placings are handed in, which is the normal expectation, it is sometimes a problem to assign to each its proper grade.

METHODS OF GRADING PLACINGS

There are three different methods employed in grading incorrect placings. The first method, for want of a better name, might very appropriately be called the general estimate or guessing method. The second is semiscientific in method, while the third it seems warrantable to call the scientific method.

To simplify the discussion as much as possible in explaining these methods and at the same time to supply the conditions which will afford a clear contrast between the systems, we will consider a ring of three animals only, the correct placing of which is 1—2—3. We will suppose, also, that Number 1 was an easy winner in the class, while the difference between 2 and 3 was slight.

General estimate method. In this method the judge considers the placings separately and rates each in turn on its own apparent worth. The grade given is determined by the estimate of the judge of the degree of error shown in each individual case. This estimate usually does not consider carefully the grades which have been previously given to other similar placings.

In the class under consideration, the correct placing of which is 1—2—3, the judge, keeping in mind that Number 1 was an easy winner and Numbers 2 and 3 close, might decide to exact a penalty of 10 for reversing the animals of the first pair, and of 3 for reversing those of the second. The following grades then

according to this plan, might reasonably be assigned to the different placings:

$$(1) \quad 1^{10}-2^3-3 = 50$$

$$(2) \quad 1-3-2 = 47$$

$$(3) \quad 2-1-3 = 40$$

$$(4) \quad 3-1-2 = 30$$

$$(5) \quad 2-3-1 = 28$$

$$(6) \quad 3-2-1 = 25$$

In favor of this method it may be said that it is simple and time-saving. When the number of different placings handed in is few and when very careful consideration is given to each placing and the grades given previously to similar ones, it is also fairly accurate, and substantial justice may be done.

When the number of animals in the class is increased from three to four and the number of possible placings thus increased from six to twenty-four, the accuracy of the method may well be questioned. This is so because the chances are greatly increased that the grades given may be grossly inconsistent and out of line with those of other but similar placings.

In the above case, for example, the grades given in (4), 3-1-2, and in (6), 3-2-1, are not consistent. The placings are alike except that in (4) Numbers 1 and 2 are placed in the correct order, while in (6) they are reversed. Now for reversing Numbers 1 and 2 in (3) a penalty of ten was imposed. To be consistent, the placing in (6), 3-2-1, should therefore be given a grade 10 below that of (4), 3-1-2, or of 20 instead of 25.

Semiscientific method. A second method or system of grading incorrect placings is illustrated in the following, the same class of animals being used as in the first instance:

$$(1) \quad 1^{10}-2^3-3 = 50$$

$$(2) \quad 1-3-2 = 47 \quad (50 - 3)$$

For this placing, where the individuals of the last pair were reversed, the score obviously should be 47.

$$(3) \quad 2-1-3 = 40 \quad (50 - 10)$$

In this case Number 2 was placed over 1, the penalty for which is 10, and the grade for the rating is consequently 40.

$$(4) \quad 3-1-2 = 37 \quad [50 - (10 + 3)]$$

In this method of grading the placings, the course of reasoning for this case is as follows. Instead of last, where it belonged, Number 3 was placed first, which removed him two places from his rightful position, the penalty for which should be $10 + 3$, or 13, resulting in a grade of 37.

$$(5) \quad 2-3-1 = 37 \quad [50 - (3 + 10)]$$

In this case the animal belonging first was placed last. By moving Number 1 from last to first position, leaving Numbers 2 and 3 in the same order, the placing is corrected. The penalty for placing Number 1 last should therefore be 13 ($3 + 10$), and the grade 37.

$$(6) \quad 3-2-1 = \begin{cases} (a) & 27 \quad [50 - (10 + 3 + 10)] \\ (b) & 31 \quad [50 - (3 + 10 + 3)] \end{cases}$$

(a) In this placing the order of the animals was exactly reversed. Number 3, instead of going last, was placed first, the penalty for which should be 13 ($10 + 3$). Correcting this we have, 2-1-3. This still leaves Numbers 2 and 1 in reversed order, the penalty for which is 10. The total penalties are 23 ($10 + 3 + 10$) and the grade for the placing 3-2-1, is therefore 27. The steps involved may be summarized as follows:

For, 2-1-3 = correction of 13 ($10 + 3$)

For, 1-2-3 = correction of 10

The corrections being $10 + 3 + 10$ the total penalty for the placing 3-2-1 is 23 and the grade therefore is 27.

(b) By a second or alternative procedure, equally as logical as the first, this so-called semiscientific method of grading in correct placings gives to the placing, 3-2-1 a grade of 31 instead of 27, as illustrated below:

If in making the first correction, we move Number 1 from last up to first place instead of moving Number 3 from first to last, as in (a), the corrections will be as follows:

For, 1-3-2 = correction of 13 ($3 + 10$)

For, 1-2-3 = correction of 3

The corrections being 3 + 10 + 3, the total penalty for the placing, 3—2—1, is 16, and the grade therefore is 34. In (a) the corrections were made by moving the numbers from right to left, while in (b) they were made by moving them from left to right. It should be noted, however, that when the same penalty is imposed for reversing the two animals in the successive pairs, which is rarely justified, the grades arrived at by these two procedures are the same.

This is one of the reasons why this method is called the semi-scientific method. There is another and more fundamental objection to this method, however, which is that it does not impose always the same penalty for reversing adjacent individuals of a pair in different combinations. As a result the grades given for some of the placings are inconsistent.

This point may be illustrated by comparing the grades given for the placings in (4) and (6), and then by comparing the results in (5) and (6).

$$\begin{aligned} (4) \quad 3-1-2 &= 37 [50 - (10 + 3)] \\ (6) \quad 3-2-1 &= \begin{cases} (a) & 27 [50 - (10 + 3 + 10)] \\ (b) & 34 [50 - (3 + 10 + 3)] \end{cases} \end{aligned}$$

These two placings are the same except that in (6) Number 2 is placed over 1. The penalty originally decided upon for this is 10. In order for the grades for these two placings to be consistent, the grade for (4), 3—1—2, should be 10 higher than that for (6), 3—2—1. It appears, therefore, that the grade for (6) arrived at in (a), 27, is consistent with that given for (4), but the grade for (6) in (b), 34, is not.

Now when the grade for (5), 2—3—1, is compared with that of (6), 3—2—1, it appears that if the method (a) is followed for (6), the results will be inconsistent.

$$\begin{aligned} (5) \quad 2-3-1 &= 37 [50 - (3 + 10)] \\ (6) \quad 3-2-1 &= \begin{cases} (a) & 27 [50 - (10 + 3 + 10)] \\ (b) & 34 [50 - (3 + 10 + 3)] \end{cases} \end{aligned}$$

The order in these two placings is the same except that in (6) Number 3 is placed over 2. The penalty for placing Number 3 over 2 is 3. It would therefore appear that, to be con-

sistent the grade for (5), 2—3—1, should be 3 points higher than for (6), 3—2—1, instead of 10 points as given in (a). The grade for (6) arrived at in (b), 31, on the other hand, although inconsistent with the grade given for (4), is consistent with the grade given for (5). It is apparent, therefore, that inconsistent grades will result by the use of either one of the alternative methods employed in (a) or (b) when the penalty for reversing the individuals of the successive pairs is not the same.

The scientific method. The third method of determining the grades for incorrect placings is called the scientific method because it is the only one which always gives consistent results. This method is illustrated in the examples below.

$$(1) 1^{\text{st}}-2^{\text{nd}}-3 = 50$$

$$(2) 1-3-2 = 47 \quad (50 - 3)$$

For this placing in which the second pair of animals was reversed the grade obviously should be 47. The two methods previously discussed give the same result.

$$(3) 2-1-3 = 40 \quad (50 - 10)$$

In this case Number 2 is placed over 1 the penalty for which is 10. The grade for this placing as by the first two methods should therefore be 40.

$$(4) 3-1-2 = 34 \quad [50 - (3 + 10 + 3)]$$

For this and the remaining placings the grades as between this and the second or semiscientific method differ. The results arrived at in this method are determined by the following procedure

For placing 3 over 1 the penalty is 13 (3 + 10)

For placing 3 over 2 the penalty is 3

For placing 1 over 2 the penalty is 0

The total penalty is 16 and the grade is therefore 34

$$(5) 2-3-1 = 27 \quad [50 - (10 + 3 + 10)]$$

For placing 2 over 3 the penalty is 0

For placing 2 over 1 the penalty is 10

For placing 3 over 1 the penalty is 13 (3 + 10)

The total penalty is 23, and the grade is consequently 27.

$$(6) \ 3-2-1 = 24 \ [50 - (3 + 3 + 10 + 10)]$$

For placing 3 over 2, the penalty is 3.

For placing 3 over 1, the penalty is 13 (3 + 10).

For placing 2 over 1, the penalty is 10.


The total penalty is therefore 26, and the grade is consequently 24.

Summary. In the following table the grades arrived at by the three methods just discussed are brought together for comparison. It is understood that the grades given in the first column are not based on any method, so that, although they may appear as fair estimates according to the judgment of one judge, some of the grades might appear to be too high or too low according to the judgment of another. Because of this, and the further fact that similar placings often receive grades which are grossly inconsistent, the first or general estimate method cannot be recommended except when there are three in the class, the number of placings handed in is few, or when the judges are not familiar with one of the more reliable methods.

Results or Grades by the Different Methods

PLACINGS	FIRST, OR GENERAL ESTIMATE, METHOD	SECOND, OR SEMI-SCIENTIFIC, METHOD	THIRD, OR SCIENTIFIC, METHOD
1 st -2 nd -3	50	50	50
1-3-2	47	47	47
2-1-3	40	40	40
3-1-2	30	37	34
2-3-1	28	37	27
3-2-1	25	(a) 27 or (b) 34	24

As stated previously, the second, or semiscientific method, although an improvement on the first method, is unreliable. This is especially true when there are four animals in the class and



Vocational agricultural students judging a class of Jersey cows at their annual round up

all possible placings are handed in. This method gives different results for the same placing, depending upon whether the corrections are made from right to left, or from left to right. In the second place, the results for similar placings are not always consistent.

The third, or scientific, method is the only one which always imposes the same penalty for reversing the adjacent individuals of a given pair in different combinations. It is the only method, therefore, where the grades given are always consistent in the different placings. Especially in determining contest results, it is the only method which can be recommended.

In using the second or third method, it is important that the judge give very careful attention to two points when grading the placings. First, he should be careful to assign a penalty for reversing the adjacent animals of the different pairs, which is an accurate measure of their real differences in merit. If the individuals of a pair are very close, it is often reasonable to make a "cut" as low as one point, or even none. In another pair the differences between the individuals may be so marked that imposing a penalty of 10 or more for reversing them would not be unreasonable.

The second important consideration is for the judge to remember that the penalties for reversing animals of the different pairs must not be so large, in total, as to result in a grade with a minus sign for any of the placings. This is especially true

with the third or scientific method. In order to make certain that the worst placing, that is, reversing the order, will not receive a minus quantity, the following rules when using the third or scientific method should be observed:

1. The larger the number of animals in the class, the lighter should the penalty be for reversing a given pair. There are two reasons for this: (1) Correct placing of a ring becomes increasingly difficult as the number of animals is increased. (2) Increasing the number from three to four increases the number of possible placings from 6 to 24. Also, with four or more in a class there is danger that reversing the class may result in a grade with a minus quantity.

2. When there are three animals in the class and the penalties total 25, regardless of the manner of its distribution between the two pairs, the grade for reversing the class will always be 0.

3. When the penalty for reversing the animals of each successive pair in a class of four is 5 in each case, totaling 15, the grade for placing the class in reversed order is 0.

4. When the sum of the three penalties in a class of four is 15 and the penalty for reversing the middle or second pair is 5, the grade for placing the class upside down or in reversed order is always 0, regardless of the manner of distribution of the other 10 units between the first and third pairs.

5. When the sum of the penalties in a class of four is 15 and the "cut" or penalty for reversing the individuals of the middle or second pair is more than 5, reversing the class results in a grade with a minus sign. If the penalty for reversing the middle pair is 1 more than 5, that is, 6, the grade for reversing the class is -1; if it is 2 more than 5, or 7, the grade for reversing the class is -2, and so on. If the grade is 1 less than 5, the grade for reversing is +1; if 2 less than 5, or 3, it will be +2, etc.

6. When it is desirable to make a "cut" of more than 5 for switching the middle pair, the total "cuts" must be less than 15 to avoid a minus quantity for reversing the class; to make a "cut" of 6, 7, or 8 for switching the middle pair, the total "cuts" must not exceed 14; to make a "cut" of 9, 10, or 11 for switching the middle pair, the total "cuts" must not exceed 13.

DUTIES OF THE CONTEST JUDGE

Successful judging contests require the services of competent, conscientious judges. A few observations concerning the responsibilities of the judge in contests where oral reasons are given would appear to be in order here.

The first and most obvious duty of a contest judge is to render the official verdict on the placing of the classes for which he is responsible. His second is to grade each and all contest placings, assessing such penalties for incorrect placings that all grades will be logical and consistent with each other. The third, and probably the most exacting of his duties, involves grading the reasons as they are given to him individually by each contestant. In addition to these, it is desirable that he be on hand early to assist the committee in selecting satisfactory classes. Also, so far as possible considering his other duties, he should be at the ringside when each class is judged by the different groups of contestants to check up on his own placing and to observe any untoward occurrence which might affect the placing of the class or the reasons for it.

Grading the reasons. The most difficult and trying part of the judge's assignment is that of grading the reasons as they are given to him orally by each contestant. This is especially true in a large contest where the number of contestants may exceed seventy five or a hundred. It is his duty to evaluate the reasons according to his best judgment. His single purpose should be to give such grades that they shall fairly represent the relative merits of the reasons as given.

To do this he must constantly be on the alert mentally. There can be no lapse of attention at any time as each student in the long succession comes before him. The conscientious judge makes every effort to do this. Also it is important that the same standard of judgment be rigidly adhered to throughout. This requires close concentration on the part of the judge and the constant exercise of his best discriminating powers. He should maintain a judicial attitude while listening to the reasons, grading them objectively according to their content or substance. He should not allow himself to be influenced by sound

or oratory except as they may aid in making the reasons more clear or convincing.

Some important don'ts. The judge should not be so prejudiced in favor of one method of giving reasons that he automatically discriminates against all other methods. His job is to judge the results of the method and not the method itself. Different teams are taught different methods. Most of these are logical in their organization and permit a systematic presentation of the observations. No student should be penalized just because the method or plan which he employs in going over the class happens to differ from the one preferred by the judge.

There is another important matter. Some judges seem to be constitutionally opposed to giving a student more on his reasons than he received on his placing. This is the result of a failure on the part of the judge to discriminate between the functions of the placing and the reason grades respectively. All mistakes in judgment on the part of the student are reflected in his placing; the placing grade exacts full payment for them. Through an error of judgment solely, the student may make a very bad placing, yet, due to the accuracy of his observations and forceful discussion, may deserve to receive a very high grade on his reasons. And he may place the class correctly, yet deserve to receive no more than 25 or 50 per cent of the allowance for perfect reasons.

And finally, the judge should refrain from interrogating the student. His function is to listen, not to ask questions, cross-examine, or even to comment. The temptation to compliment the student after a fine performance of reason giving is very great, but even this should be avoided. Especially should he understand that it is not proper to discuss with the student the placing of the class or the reasons, to point out mistakes in observation, to criticise or to comment. Not only is the assumption of such a privilege full of mischief, but the time consumed results in throwing out of gear the orderly conduct of the entire contest.

APPENDIX

American Breed Record Associations

The following list is divided into kinds of livestock. Under each kind is given the name of the breed, the name of the association for that breed, and the name and address of the secretary of the association.

SWINE (Revised June, 1940)		
Berkshire	American Berkshire Association	C W. Mitchell, 410 S Fifth St., Springfield, Ill.
Chester White	The Chester White Swine Record Association	Levi P. Moore, Rochester, Ind.
Chester White	Breeders' Chester White Record Association	L. W. Drennen, 603 Third St., Des Moines, Iowa
O. I. C.	O. I. C. Swine Breeders' Association	O. C. Vernon, Box 514, Goshen, Ind.
Duroc Jersey	United Duroc Record Association	B. R. Evans, Duroc Bldg., Peoria, Ill.
Hampshire	Hampshire Swine Registry	E M. Harsch, 915-17 Commercial Bank Bldg., Peoria, Ill.
Hereford	National Hereford Hog Record Association	A J. Way, New Sharon, Iowa
Poland China	The American Poland China Record Association	Geo W. Davies, Union Stock Yards, Chicago, Ill.

Poland China	Standard Poland China Record Association	J E Rush, Maryville, Mo
Spotted Poland China	American Spotted Poland China Record Association	Van G Sutliff, Moberly, Mo
Spotted Poland China	National Spotted Poland China Record Association	F L Obencham, Bainbridge, Ind.
Tamworth	Tamworth Swine Association	W T Barr, Route 1, Ames Iowa
Yorkshire	American Yorkshire Club	H G Krum, 1001 Lafond St., St. Paul, Minn

DAIRY CATTLE (Revised July, 1939)

Any Breed	The American Dairy Cattle Club	Clifford L. Clevenger, Mount Hope Farm, Williamstown, Mass
Guernsey	The American Guernsey Cattle Club	Karl B. Visser Peterborough, N H
Jersey	The American Jersey Cattle Club	Lewis W. Morley 324 W 23rd St., New York N Y
Ayrshire	The Ayrshire Breeders Association	C T Conklin Brandon Vt.
Brown Swiss	The Brown Swiss Cattle Breeders Association of the United States of America Inc	Ira Inman, Beloit, Wis
Dutch Belted	The Dutch Belted Cattle Association of America	R. E. Schwartz, Buchanan Mich
Holstein Friesian	The Holstein Friesian Association of America	H W Norion Jr., Braintreeboro Vt.

DUAL-PURPOSE CATTLE

In addition to the above, some of the breeds that are bred primarily for beef are sometimes bred and used as dairy cattle. These associations are

Devon	The American Devon Cattle Club	W J Neal Meredith N H
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Red Polled	The Red Polled Cattle Club of America	F A Sloan, Burchard, Neb
Shorthorn	The Milking Shorthorn Society	Roy A Cook, Independence, Iowa
Shorthorn	The American Shorthorn Breeders' Association	H J Gramlich, 7 Dexter Park Ave , Chicago, Ill

BEEF CATTLE

Aberdeen Angus	American Aberdeen Angus Breeders' Association	W H Tomhave, 1 Dexter Park Ave , Chicago, Ill
Brahman	American Brahman Breeders' Association	Mrs S C Border, Hungerford, Tex
Galloway	American Galloway Breeders' Association	Miss Margaret Coridan, 812 Exchange Ave , Chicago, Ill
Hereford	American Hereford Association	R J Kinzer, 300 W 11th St , Kansas City Mo
Polled Hereford	American Polled Hereford Breeders' Association	B O Gammon, 518 Old Colony Bldg , Des Moines Iowa
Shorthorn	American Shorthorn Breeders' Association	H J Gramlich, 7 Dexter Park Ave , Chicago, Ill

SHEEP (Revised April, 1940)

Cheviot	American Cheviot Society, Inc	Mrs Katherine Turrell, Oneonta, N Y
Corriedale	American Corriedale Association	Fredric S Hultz, 1007 Sheridan St , Laramie, Wyo
	National Corriedale Sheep Association	Mrs F J Moline, Record Bldg , Union Stock Yards, Chicago, Ill
Cotswold	American Cotswold Record Association	F W Harding, 807 Exchange Ave , Union Stock Yards, Chicago, Ill

Dorset	Continental Dorset Club	J R. Henderson, Hickory, Pa.
Hampshire	American Hampshire Sheep Association	Mrs Helen Tyler Belote, 72 Woodland Ave., Detroit, Mich
Karakul	Karakul Fur Sheep Registry	L. K. Brown, Friendship, Wis
Lincoln	National Lincoln Sheep Breeders' Association	D T Knight, Marlette, Mich
Merino	American & Delaine Me rino Record Association	Gowdy Williamson, Xenia, Ohio
	Black Top & National Delaine Merino Sheep Association	L Y Hamilton, Houston, Pa.
Oxford	American Oxford Down Record Association	J M McHaffie, Clayton, Ind.
Rambouillet	The American Rambouil let Sheep Breeders' As- sociation	Mrs Dwight Lincoln, Marysville, Ohio
Romeldale	Romeldale Sheep Breeders' Association	A. T. Spencer, Gerber, Calif.
Romney	American Romney Breed ers' Association	H. A. Lindgren, Corvallis, Ore
Shropshire	The American Shropshire Registry Association	Miss Julia M Wade, Lafayette, Ind.
Southdown	American Southdown Breeders' Association	W L. Henning, 203 Agricultural Bldg., State College, Pa.
Suffolk	American Suffolk Sheep Society	C. W. Hickman, University of Idaho, Moscow, Idaho
	National Suffolk Sheep Association	Mrs. F J Moline, Record Bldg., Union Stock Yards, Chicago, Ill.

DRAFT HORSES (Revised June, 1940)

Belgian	Belgian Draft Horse Cor poration of America	H. J. Brant, 161 Ferry St Wabash Ind.
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Clydesdale	Clydesdale Breeders' Association of United States	Miss Margaret Coridan, 840 Exchange Ave., Union Stock Yards, Chicago, Ill.
Shire	American Shire Horse Association	E. F. Fox, 319 East Fourth St., Des Moines, Iowa
Suffolk	American Suffolk Horse Association	J. G. Truman, Bushnell, Ill.
Percheron	Percheron Horse Association of America	Ellis McFarland, 9 Dexter Park Ave., Union Stock Yards, Chicago, Ill.

LIGHT HORSES

Hackney	American Hackney Horse Society	Gurney C. Gue, Box 536, Merrick, Long Island, N. Y.
American Saddle Horse Saddle	American Saddle Horse Breeders' Association	Charles J. Cronan, Jr., 204-206 Urban Bldg., Louisville, Ky.
	Tennessee Walking Horse Breeders' Association of America	Gilbert M. Orr, Lewisburg, Tenn.
American Trotter Arabian	The United States Trotting Association	Will Gahagan, Registrar, Goshen, N. Y.
	The Arabian Horse Club of America, Inc.	Alfred R. Watt, Barrington, Ill.
Coach	German, Hanoverian, and Oldenburg Coach Horse Association of America	G. R. Crouch, Lafayette, Ind.
Thoroughbred	The Jockey Club	Fred J. E. Klees, Postum Bldg., 250 Park Ave., New York, N. Y.
Morgan	The Morgan Horse Club, Inc.	Frank B. Hills, 90 Broad St., New York, N. Y.
Cleveland Bay	Cleveland Bay Association of America	A. Mackay Smith, White Post, Va.

PONIES

Shetland	The American Shetland Pony Club	Miss Julia M. Wade, Lafayette, Ind.
Welsh	The Welsh Pony and Cob Society of America	Miss Julia M. Wade, Lafayette, Ind.
Hackney	American Hackney Horse Society	Gurney C. Gue, Box 536, Merrick, Long Island, N. Y.

JACKS AND JENNETS

Jacks and Jennets	Standard Jack and Jennet Registry of America	William E. Morton, 501 Scarritt Bldg., Kansas City, Mo.
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Glossary

- Barrow.** A male hog, castrated when a pig.
- Blocky.** Applied to meat-producing animals and draft horses, meaning deep, wide, low-set, and compact.
- Boar.** Breeding male of the swine species.
- Breed.** A group of animals, the individuals of which possess in common certain well-defined characteristics and which are able to reproduce these characteristics in their offspring with a reasonable degree of surety.
- Breed character.** A combination of masculinity or femininity with ideal breed-type features, especially about the head.
- Breed type.** That particular type or form characteristic of a breed, together with those special characteristics in head, ear, color, or other special traits, which are common to a particular breed.
- Bull.** Breeding male of the cattle species.
- Bullock.** English term for a finished or fat steer.
- Calf.** Young animal of the cattle species, usually under one year old.
- Close breeding.** Inbreeding.
- Colt.** A young stallion.
- Constitution.** General bodily vigor, indicated by a large heart girth and roomy middle.
- Cow.** Mature female of the cattle species.
- Crossbred.** The result of mating two purebreds of the same species but different breeds.
- Ewe.** Female of the sheep species.

Fecundity. The ability of the individual to produce eggs or sperms regularly.

Femininity. The appearance resulting from the possession of well-developed secondary female sex characters.

Fertile. Able to reproduce regularly.

Filly. A young mare.

Flesb. The muscle and fat covering of any animal.

Foal. Colt or filly under one year old.

Freemartin. A barren female born twin with a bull.

Gelding. A male horse which has been castrated before two years old.

Gilt. A young sow, usually under one year old or before she has farrowed a litter.

Grade. An animal possessing *som *, but less than one hundred per cent, pure breeding; the result of using a purebred sire on a dam of no particular breeding.

Heifer. A female of the cattle species under three years old.

High grade. An animal possessing seventy-five per cent or more of the blood of some breed.

Hinny. A hybrid, the result of mating the stallion with the jennet or female ass.

Hybrid. The offspring obtained by mating two animals of different species, as the ass and horse.

Impotent. Lacking potency; weak in breeding powers.

Inbreeding. The mating of animals more or less closely related, such as brother and sister, half-brother and sister, sire and daughter, cousins, etc.

Lamb. Sheep under one year old.

Line breeding. Inbreeding in which occurs the introduction of the blood of some animal more than once, such as mating grand-sire to granddaughter.

Mare. A female of the horse species.

Masculinity. The appearance resulting from the possession of well-developed secondary male sex characters.

Mule. A hybrid, the result of mating the mare with the jack or male ass.

Natural flesh. Lean meat or muscle.

Outcross. The result of introducing into a herd or strain, the individuals of which are more or less related, blood from some outside and unrelated source but of the same breed.

Pedigree. A written statement giving the record of an animal's parentage or ancestry for three or more generations.

Plain. A term suggesting general inferiority; coarse; lacking quality.

Polled. Naturally hornless; a mulley.

Potent. Strong.

Prepotency. The fancied power which one parent possesses to fix in the offspring his or her characteristics to the exclusion in large part of the characteristics of the other parent.

Prolific. Able to reproduce regularly and numerously.

Purebred. An animal with pure breeding; eligible to registration in some standard breed association.

Quality. The result of fineness of texture as opposed to coarseness; in the general sense, used to indicate superior breeding or general merit.

Ram or Buck. Breeding male of the sheep species.

Rugged. Big, strong.

Scale. Size.

Scrub. An animal of the lowest degree of inferiority in either breeding or individuality.

Scurs. Small rounded portions of horn tissues attached to the skin at the horn pits of polled animals; called buttons; not to be confused with horn stubs which are fastened to the skull.

Sbote. A young hog.

Sow. Female of the swine species.

Spayed heifer. A heifer that has had her ovaries removed by the operation known as spaying.

Stag. A male which had been castrated after reaching breeding age.

Stallion. A male horse of breeding age.

Tboroughbred. The name of the English breed of running horses.

Type. The general form of an animal unmodified by special fit-

ting or condition which adapts it to a particular kind of work, performance, or function.

Typy. Possessing the characteristic type or form.

Weanling. A weaned foal

Wether. A male sheep, castrated when young.

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